ABSTRACT OF

The Milroy Lectures,

ON

DIPHTHERIA, ITS NATURAL HISTORY AND PREVENTION.

Delivered before the Royal College of Physicians of London,

BY R. THORNE THORNE, M.B., F.R.S., F.R.C.P.

LECTURE IV.

MILK in connexion with the causation and diffusion of diphtheria was next discussed, Dr. Michael Taylor's and Dr. Ballard's experiences being referred to as the first in which any such cause was suggested as having to do with the specific fevers. Mr. Power has the credit of having first definitely shown a relation between occurrences of diphtheria and the use of particular milk services, and his investigations as to this in North London in 1878 were recorded in some detail, it being shown that the incidence of the disease on households taking the special milk and those having another service was at the rate of 60 and 5 per 1000 respectively. And when the various circumstances by which milk could at that date be regarded as liable to become infective had been discovered, the suggestion had even then been made that there had probably been some contamination of the milk by particular cows suffering, whether recognised or not, from some specific disease. The idea as to the existence of some relation between disease in the lower animals and man was, indeed, not altogether new. There was the analogy of foot-and-mouth disease, and some early experiences of Dr. Thorne were referred to, in which he had found that young pigs fed on the milk of cows suffering from the latter disease were killed by it, whilst children using it suffered from certain affections of the mouth and fauces. Other diphtheria outbreaks having somewhat similar histories were quoted, but no substantial advance was made until the occasion of an outbreak at Hendon in 1882, which, having first been investigated by Dr. Cameron, was afterwards also inquired into by Mr. Power. Here again nine-tenths of the houses invaded received their milk from one dairy, the houses being those which were best circumstanced from a sanitary point of view. And here it was further noticed that there had been a special incidence of the disease on people, whether children or adults, who habitually consumed uncooked milk in large quantities. The source from which the milk had received its infection was again involved in much obscurity, but there were circumstances which led to the surmise that the infectiveness had possibly been brought about by causes operating through the cow herself, and enabling her to furnish a milk capable of inducing diphtheria and the allied sore-throat in the human subject; and the milk itself gave some physical indications of this. But no disease in the cow other than some possible trivial ailment, which, according to veterinary judgment, did not prevent the cow from being regarded as healthy, had as yet been made out.

So matters remained until 1886, when a very severe diphtheria epidemic appeared amongst the better classes living at York Town and Camberley. The onset was sudden, 88 marked attacks and 52 of lesser severity taking place in three weeks and a half. Of those attacked, 84·2 per cent. received their milk from one dairy, which thus came under suspicion, and during ten days of especial severity every one of the forty-eight houses invaded took the supply in question; and this speciality of incidence *qua* milk was quite different from any other incidence that could be made out. Here, again, the amount of milk consumed was seen to have to do with the risk of diphtheria. In some previous milk epidemics, where other infectious diseases had been concerned, Dr. Thorne had been led to believe that there was a special infectivity attaching to cream, which he thought had in its formation probably entangled the specific particles of disease, and so carried them to the surface. But this view could not account for all the circumstances noted at Camberley. Indeed, if any additional risk was incurred by mere cream-drinking, it was altogether overwhelmed by the danger attaching to the *storage* of milk, the skim milk resulting from the storage being as infective as the cream, and it seemed as if this storing gave opportunity for the cultivation of the specific organisms of disease which did not otherwise occur. Subsequent experiences of Dr. Klein have gone far to confirm this view.

In the meantime, diphtheria prevalences which could unmistakably be attributed to milk were increasing, and suspicion had arisen that a number of the lower animals might be concerned in it. The early experiences of the Medical Department of the Local Government Board having been referred to as to this, the observations of Dr. George Turner, Dr. Robinson, and others were quoted. The existence of a disease akin to diphtheria was found amongst fowls which had pecked at diphtheria sputa; amongst turkeys, from which the disease had apparently spread to the human subject; and also amongst other animals, notably cats. With regard to cats, the disease had appeared to be transmissible both from them to children, and from the latter back to cats, and a number of occurrences of diphtheria were quoted in this connexion. Noah Webster's writings in 1800 were also recalled as to the occurrence of fatal "angina" in man synchronously with a "pestilence amongst cats," and the more recent labours of the Medical Department of the Local Goverment Board, in so far as the special pathology of the disease was concerned, were then entered into in some detail. Latterly Dr. Klein had been experimenting on certain animals with the membrane of diphtheria, and though he had failed as regards birds, it was otherwise with cats, on the cornea and conjunctiva of which animals a disease, infective amongst cats, could be produced, by inoculation from human diphtheria membrane; and from this induced disease bacilli could be isolated resembling the Klebs-Löffler diphtheria bacilli. From this, Dr. Klein was led to study this bacillus more in detail, and he succeeded not only in confirming Löffler's view that the organisms hitherto regarded as one, included a bacillus potent to induce diphtheria and a pseudo-diphtheria bacillus, but he also showed that whilst the two forms of organisms were so far alike as to be indistinguishable microscopically and otherwise, they differed in their power of mutiplication when cultivated at different temperatures; the true diphtheria bacillus multiplying, in milk, for example, at the ordinary temperature of the air. This discovery had, it was pointed out, important bearings on the special virulence of diphtheria induced as the result of drinking an infective milk which had been *stored* for purposes of securing cream or otherwise. At this stage Dr. Thorne recalled the fact that in nearly all the carefully recorded cases of milk diphtheria there had been evidence either of some "trivial" ailment in the milch cows, showing itself, for example, on their udders and teats by means of vesicles, "chaps," &c., or some story of a physical alteration in the quality of the milk, such as was shown by a condition of "ropiness," which dairy farmers admitted to be due to some condition affecting the cow herself. And he then gave an account of Dr. Klein's most recent researches as to milch cows, researches which are to be fully recorded in Dr. Buchanan's forthcoming report on the proceedings of the medical department of the Local Government Board. Briefly told, they amount to this: Milch cows inoculated with human diphtheria membrane acquire a definite specific disease, which may or may not in the end be fatal. The milk apparatus of the animals continue to furnish abundant milk, but the udders and teats exhibit vesicles, "chaps," sores, &c., almost exactly like those found by Mr. Power and others in the milk diphtheria epidemics; and in the lymph of these udder vesicles the true bacillus diphtheriæ could be found. So, also, from the milk itself abundant colonies of the bacillus could be cultivated, whilst no other organisms could be detected. Then came a curious accidental experiment. Contrary to orders, two cats had been supplied with some of the cow's milk, and in these cats the disease called by Dr. Klein "cat diphtheria" resulted. This latter experiment is stated to be referred to by Dr. Buchanan as lacking scientific precision owing to its accidental character, but it is of much interest in connexion with the subject discussed, and it will doubtless be repeated. Reviewing the information resulting from these experiments on cows, "we are able," said Dr. Thorne, "to appreciate the import of those apparently trivial ailments in milch cows, to which so little importance has hitherto been attached by veterinarians and dairymen, but which have so commonly been discovered in association with epidemics of milk diphtheria."

At this stage of the lecture Dr. Thorne laid down a series

of propositions embodying the points which he had brought forward, and he explained that time had not permitted him to deal with all the matters which were properly included in the somewhat comprehensive title which he had originally attached to this course. Prevention of diphtheria had not been touched upon, and he had desired to deal with a number of other points, such as the stability of the contagium, the vehicles by which it could be communicated, its possible diffusion aerially, the incubation period of the disease, and its relation to croup. And finally he announced his intention of publishing the course of lectures, in such form as would include these and other points which he had been compelled, by reason of time, to pass over without comment.

ABSTRACT OF THE
Goulstonian Lectures,
ON
LEAD POISONING IN ITS ACUTE AND CHRONIC MANIFESTATIONS.

Delivered at the Royal College of Physicians, March, 1891,

BY THOMAS OLIVER, M.A., M.D., F.R.C.P.,
PHYSICIAN TO THE ROYAL INFIRMARY, NEWCASTLE-UPON-TYNE, AND PROFESSOR OF PHYSIOLOGY, UNIVERSITY OF DURHAM.

LECTURE II.

AT the close of the last lecture Dr. Oliver dealt with the peculiar susceptibility of women to the influence of lead, and he said that under any circumstances, once saturnine poisoning was induced, it was particularly apt to recur on exposure. Indeed, sometimes the symptoms reappear without exposure, the explanation being that lead which had been deposited as an inert compound had by some changes either in the blood or in the fluids become converted into a soluble lead compound, and in this form was reabsorbed. He said it was sufficient to state here that either in a state of solution, of fine subdivision, or dissolved in some volatilised agent, such as turpentine, lead is taken into the system. Of all the symptoms and physical signs of lead poisoning, the one physical sign above all others which indicates that the system is becoming impregnated with lead, and is suffering in consequence, is the development of anæmia, which becomes gradually confirmed, and is spoken of as saturnine cachexia. Almost from the first day of exposure to lead, hæmatosis is interfered with. He had never found in a lead worker the normal number of red blood cells. They vary from 2,500,000 to 4,000,000 per cmm. There is no marked increase in the number of white cells, but the colouring matter falls as low as 45 or 50 per cent. of the normal. The bones have in some cases contained lead, and to this fact the anæmia may be partially attributed. The physical sign of plumbism which is most looked for and generally met with is the presence of a blue line on the gums, noticed by Burton, but previously described by Fancquerel. When present it is a valuable sign. But it may be absent; it generally is when the teeth and gums are perfectly sound and the mouth is kept cleansed. And yet there may be colic and no blue line, or a girl may die from acute encephalopathy with no blue line present from first to last characteristic of the poison. There are two blue lines. One is a delicate line just at the margin of the gum. It is a deposit of sulphide of lead on, and not in, the gum. It is easily removed by cleansing the teeth and rinsing the mouth. The other, the characteristic line, is bluish black, and occurs also at the margin of the gum, where it is not in complete apposition with the teeth. There the gum is frequently ulcerated and irregular in outline. The lecturer had seen a blue line develop the day after a large dose of acetate of lead had been taken. It persisted for a few days, and then disappeared. It is difficult to say how long the blue line of plumbism will remain after removal of the individual from the influence of lead. In some of Dr. Oliver's cases it had disappeared very quickly—the earliest eight days, but in the severe forms three to six months. He had never succeeded in developing the blue line in plumbism by iodide of potassium when absent, as some authors are said to have done. He alluded to the line on the gums noticed in other forms of poisoning—bismuth and copper,—and showed a drawing in which a black or carbon line had been noticed on the teeth and gums of a coal miner admitted into the Newcastle Infirmary under the care of his colleague, Prof. Philipson.

One of the earlier symptoms complained of by patients suffering from plumbism is sudden and severe pain in the abdomen. Generally it is preceded by such prodromata as a metallic taste in the mouth in the morning and by vomiting, or only by a feeling of sickness and loss of appetite and constipation, and occasionally by diarrhœa. Colic occurs early after exposure to lead; in one of the lecturer's cases twelve days after. Pressure is said by most writers to relieve it, but sometimes the patient cannot bear to have the abdomen touched. There are two kinds of pain: the paroxysmal or acute pain, which is the true lead colic, and which is generally relieved by pressure; and the other is the dull, continuous pain, which follows it in the intervals. It is this pain which is usually aggravated by pressure. It is difficult to say what produces the acute pain in lead colic. A spasmodic constriction of the small intestine occurring at irregular intervals appears to be the cause of the pain in lead colic by pressure upon the nerves, and this is aggravated by the efforts made by the distended portions of the intestine to propel their contents into the contracted tube below. The lecturer gave his reasons for regarding the action of lead upon nerve ganglia as primary, and upon muscular fibre as secondary, and showed that the colic whilst aggravated by constipation that might be present was not caused by it, there being in not a few cases diarrhœa. The question of colic was, however, part of a much larger problem. During the attack of colic the pulse is known to become hard and resistant, and is very decidedly retarded. Slowing of the heart's action being part of this process, and explained by reflex inhibition through the cœliac and mesenteric plexuses, sphygmograms were shown in support of the opinions expressed. They showed the heightening of arterial tension that arises in the course of exposure to lead, the increase of the tension during colic, and in addition a peculiar difference in the pulses of the radial arteries whenever severe colic had been experienced—a difference far in advance of anything observed in health or in other diseases save aneurysm, and which (as it persisted in spite of concurrent heart disease) Dr. Oliver regarded as characteristic of lead poison, and dependent upon some alteration in the structure of the abdominal sympathetic ganglia. He also alluded to the almost complete suspension of the renal function during the attacks of colic, and drew attention to the difference in the pupils met with in lead poisoning.

An early symptom in lead poisoning is an alteration of the menstrual function. There is frequently menorrhagia, even in young girls. Others suffer from amenorrhœa. Lead workers miscarry in a far larger percentage than other women. Dr. Barnes[1] alludes to the subject, and quotes the experience of M. Paul as to fifteen pregnancies of four women who had worked in a type foundry. Ten of these ended in abortion, two in premature labour, one in still-birth, and the child died within twenty-four hours. Dr. Oliver gave details of several cases, showing how frequently exposure to lead induced abortion or the early death of the offspring from convulsions. He alluded to the post-mortem appearances met with in the liver and kidney of an infant whose parents were lead workers, drawing attention to the atrophied condition of the secreting structures of liver and kidneys.

The various forms of lead paralysis were subsequently discussed, from the classical wrist-drop to the generalised paralysis in which muscles of legs, back, shoulders, and arms were affected; and the lecturer showed a good illustration of the latter, which had occurred in the clinique of Prof. Philipson. The predilection of the extensor muscles to be affected was also discussed, but he showed that whilst the flexors and supinator longus, as a rule, escaped, the latter muscle occasionally became involved. His colleague Dr. Drummond had observed paralysis of the flexors. The muscles were affected in groups. Dr. Oliver discussed the primary seat of the lesion in lead paralysis; and whilst he regarded the probability of the lesion being in many instances a peripheral neuritis, he favoured the

[1] Obstetric Medicine and Surgery, vol. i., p. 406.

view of it being a central lesion. The relation of optic neuritis and lead poisoning was discussed, and it was shown that long before albumen is detected in the urine there may be neuro-retinitis. Cases were detailed. One case, a female aged twenty-three, after having been blind for twenty-one weeks, gradually regained her eyesight. Optic atrophy is a frequent consequence of lead neuro-retinitis. There were many circumstances in operation at one and the same time in lead poisoning to cause neuro-retinitis; such as, for example, contracted cerebral arteries, imperfect emunction, disordered menstruation, and a peculiar influence of lead itself upon disc and retina that it was difficult to assign to each its proper share in the production of the neuritis. Attacks of acute lead encephalopathy were frequently preceded by hysteria. This the lecturer had often seen. Baumgartner of Newcastle had met with it. The symptoms gradually increase in severity and differ from those associated with functional derangement, becoming ultimately signs of some deep impression made upon the brain by lead. These cases frequently end in death within a few days of their first appearance. The lecturer then alluded to the question of toxic hysteria in general and of the sensory disturbances met with in lead poisoning, and concluded the lecture by drawing attention to the relation of lead poisoning with acute delirium and insanity; and in one case in particular to a peculiar loss of memory for names of places.

FIVE CASES OF DISORDERS OF THE FRONTAL SINUSES.

BY J. W. HULKE, F.R.C.S. ENG.

DISORDERS of the frontal sinuses, if we except the fleeting congestions of their mucous membrane, which are a part of "nasal catarrh," are of infrequent occurrence. They occur, indeed, so infrequently that many surgeons in large practices have never met with them, and few can claim much familiarity with them. Some of these disorders are unattended with symptoms sufficiently distinct to denote their presence, in others the local condition is merged in one of wider extent, and so escapes recognition. As an example of the former class may be cited the slight degree of hyperostosis which imparts to the normally smooth walls of the sinus a finely tuberculated roughness resembling that of shagreen, comparable to that which in anatomical preparations is better known in the antrum, where attention was called to it by Professor Hyrtl. Such, also, are the examples of excessive irregular bone growth in the walls of the sinus in certain instances of cranial hyperostosis—e.g., that characterising the condition known as "leontiasis ossea." In these and in allied conditions, whilst the cavity of the sinus is encroached on by the adventitious tissue and its capacity lessened, the walls of the sinus are thickened, and so the circumstances are completely different from those attending the presence of an exostosis within the sinus; for this latter, whether it originates within the sinus springing from its walls, or whether it intrudes into the sinus, its origin lying outside it in some neighbouring part, expands the cavity of the sinus as it fills it, and wastes its walls, even to making perforations in them. The clinical recognition of these two forms of inordinate bone growth in the sinuses is important, since the diffuse is beyond the reach of surgery, whereas "exostosis," even when of large enough size to attract attention, is removable by operation, in some instances at least, its relation to the walls of the sinus being throughout the greater part of its extent only one of close approximation of surfaces, organic connexion, when present, being usually very limited. The enlargement due to diffuse hyperostoses is usually not so extremely slow as that caused by exostosis, and the surface of the swelling, whilst uneven, has not that bossiness which is so characteristic of exostosis in this region. The excessive hardness of these exostoses has been a chief operative difficulty. Here the American dental engine is a valuable aid, "roses" and other forms of cutters larger than those employed by dental surgeons prove here extremely useful. Perhaps the commonest disorder of the frontal sinuses for which surgical aid is sought are the distension and expansion of the sinus by the accumulation of glairy mucus within it, occasioning the condition known as "mucocele." In this the orbital is commonly more displaced than the external wall. The encroachment on the cavity of the orbit thus caused occasions a corresponding displacement of the eyeball from its normal position. This, before externally evident on inspection, may early discover itself by diplopia—a symptom which, in conjunction with frontal headaches, has occasionally in these cases led to an unfounded impression of the presence of cerebral disease.

The etiology of (uncomplicated) mucocele of the sinus is frequently far from clear. In not a few instances a history is given of an antecedent mechanical injury—e.g., a blow on the forehead or upper border of the orbital opening, yet seldom sufficiently severe as to render probable a direct lesion to the infundibulum. In other cases a chronic inflammation of the nasal mucous membrane has been regarded as a causal antecedent. Of both these circumstances closure of the lumen of the infundibulum must be regarded as a possible consequence. It is, however, certain that obstruction of the infundibulum is not a necessary antecedent, since after a free passage has been made from the most dependent part of the sinus into the nasal chamber mucus may continue to accumulate in the sinus, as may be shown by syringing out this cavity. In such cases, however, the mucus is very glairy and tenacious; and this affords a useful therapeutic hint, for it is not until the secretion of the mucous membrane of the sinus has regained a normal tenuity that the cavity can be efficiently drained. Hence injections of astringent solutions, and in particular of zinc chloride, may often be usefully employed. Although in probably a majority of instances manifesting itself by external signs on one side only—possibly even in some of these instances both sinuses form a common cavity owing to imperfection of the septum between them,—yet instances do occur in which each sinus is the seat of a separate mucocele, as in the following case, where the completeness of the septum was certainly verified:—

A lady, aged fifty years, was seen by me, in consultation with Mr. Sibley, in June, 1889. She had at the upper and nasal angle of the right orbit, beneath the inner end of the eyebrow, an obvious swelling. It was smooth, of a subglobular figure, not distinctly fluctuating, yet so elastic as to suggest the presence of fluid. At its margin could be felt a hard edge, suggesting that it had perforated the bone. The left upper eyelid was œdematously swollen, red, and tender, and beneath the middle of the upper orbital border was a fixed, deeply placed swelling, in which an obscure fluctuation was discoverable. The known duration of the right swelling was about two years, and that of the left about three weeks. She had long had more or less severe frontal headache, which very recently had been more severe on the left side. The symptoms appearing to denote a double frontal mucocele, the right swelling was incised, giving escape to much very thick glairy mucus. An opening in the bone forming the external wall of the sinus was verified, and when this was enlarged so as to admit the finger, the cavity of the sinus was found much expanded and the septum complete. The swelling in the roof of the left orbit was then explored through an incision in the upper eyelid. It also proved to be a mucocele, which had made a considerable perforation in the orbital wall of the sinus. A perforation was next made through the most dependent spot in the floor of each sinus into the corresponding nasal chamber, and a rubber drainage-tube was passed from the external wound through the sinus into the nose, the lower end of the tube being brought out through the anterior nostril. The mucus was so viscid that syringing several times daily was required for its expulsion. When this was omitted, accumulation always occurred, notwithstanding the free communication between the sinuses and the nose. The progress was very slow. The rubber tubes were replaced by short vulcanite tubes suitably curved, but these were found less comfortable by the patient than the flexible rubber. After trial of several astringents, the use of a zinc chloride solution in water (one grain to the ounce) twice daily was quickly followed by improvement, but it did not appear prudent to lay aside the tubes until several months had elapsed. After they were discontinued the openings soon closed.

The above was a case of simple mucocele. In another class of cases the mucocele is complicated by the presence of a solid neoplasm, autochthonous or intrusive; of these,

polypi resembling the mucous form of nasal polypus appear to be not very infrequent; whilst less frequently complex forms of tumours, combining cartilaginous, osseous, and myxomatous tissue, and also sarcoma, have been met with. That frontal, although frequently concurrent with nasal polypi may occur independently of the latter is certain. This may be seen in the first of the following cases, in which the nasal passages were perfectly free. This is probable, seeing that the mucosa in the two cavities is continuous, so that even when frontal and nasal polypi happen to be concurrent, the former are not thereby shown to be intrusive and not autochthonous; since the two "terrains" being essentially identical, the causes which lead to their evolution in the one may not be denied efficiency in the other. The following three cases illustrate the above affection of the sinuses.

CASE 1. *Mucous polypi in frontal sinus.*—A shoeblack aged eighteen years applied at the Moorfields Eye Hospital on April 18th, 1888, for a painful tender swelling of the roof of the left orbit attended with proptosis. No history of mechanical injury. The case was regarded as one of periostitis with suppuration. An incision was made into the swelling, some pus escaped, and the wound soon closed. The proptosis, however, remained. He continued under observation through the summer, and in October, the swelling having slowly increased, he was readmitted into the hospital, and the swelling was explored through a free incision. A large defect in the orbital roof was discovered, leading into the frontal sinus. Much viscid mucus escaped, and when the lips of the wound were separated with retractors a gelatinous polypus of the size of a grape was seen filling the opening in the bone. This and another were removed. A drainage-tube was inserted and the cavity syringed. Antiseptic precautions were observed, but the operation was followed by diffuse phlegmonous inflammation and pyæmia, from which he slowly recovered, and went to a convalescent hospital. In October, 1889, although a free passage into the nose from the sinus existed, and an examination of the sinus made it nearly certain that no polypi were present in it, the free secretion of viscid mucus still persisted, necessitating the continued employment of syringing and tube. The further history of the case is not known.

CASE 2. *Mucous polypi in frontal sinus.*—A gentleman aged seventy, by the advice of his family medical attendant, Dr. W. Bell of West Brighton, consulted me for a diplopia of six weeks' duration. On taking up his newspaper one morning he was alarmed by a "doubling" of the lines of type, and this continued up to the date of his coming to London. Its explanation was found in an evident proptosis of the right eyeball, the outward and also upward movements of which were restricted. The cause of the displacement of the eyeball was a fixed, circumscribed, elastic swelling, projecting downwards from the roof of the orbit within nearly the whole extent of the upper margin of this cavity, and bulging most at its inner or nasal end. At the inner and upper angle of the left orbit was a similar but smaller swelling. The nasal tone of the patient's voice led to an examination of his nasal passages; they were found plugged with mucous polypi. The objective characters of the orbital swellings taken in concurrence with the presence of nasal polypi favoured the idea that they were due to expansion of the frontal sinuses, with absorption of their orbital wall, by similar polypi within them. The patient mentioned that in 1852 (twenty-six years previously) he had had polypi taken from the nose by Professor Syme of Edinburgh, and he was afterwards advised not to allow any other surgeon to interfere with them, though they recurred. To this advice he obstinately adhered, notwithstanding Mr. Syme's death, and he could not be brought to entertain the idea of having the orbital swellings explored, but he promptly returned home. Shortly after this he was attacked by what was regarded as phlegmonous cellulitis over the left swelling. The skin sloughed, and necrosed masses of polypi were thrown off from the sinuses. His state was for some time very critical, but he recovered, and in March, 1879, Dr. Bell wrote that the undue prominence of the eyeball was less, and the opening between the sinus and the external surface had become fistulous. The further history is unknown.

CASE 3. *Mucous polypi in frontal sinus.*—A bakeress aged sixty was received into the Middlesex Hospital on Jan. 15th, 1889, on the recommendation of Mr. E. Snell of Ketton. Her right eyeball was distinctly advanced; its mobility was unimpaired, its vision good. There was troublesome epiphora. At the upper and nasal angle of the orbit was a hard, fixed swelling, circumscribed, extending outwards to beyond the supra orbital notch, at its outer end elastic. The space between this and the upper and outer angle to half the height of the outer orbital border was occupied by a movable swelling, the figure, size, and consistence of which suggested it to be the displaced lacrymal gland. The left nasal passage was completely, and the right almost completely, obstructed by mucous polypi. She said that the prominence of the eyeball had been first noticed three years previously. She had attributed it to a strain through coughing violently. Two years later (March, 1888) finding her "nose stuffed" so that she could not breathe through it, she consulted Mr. Snell, who took several polypi from both nostrils. On the hypothesis that the orbital swelling was the cause of the proptosis, against which view there were not any apparent grounds, and that the woman's statement as to its duration (three years) was trustworthy, the present size of the swelling indicated a very slow rate of increase. This was unfavourable to the idea of a sarcoma, which in the orbit has usually a rapid course. The objective characters of the swelling harmonised with the idea that it was the expanded frontal sinus, and the concurrence of nasal polypi suggested that mucous polypi might be the cause of its expansion. The nasal polypi having been removed on Jan. 16th, the orbital swelling was exposed through an incision parallel to the eyebrow; a smooth, dark-bluish body came into view. On slitting this open a small quantity of glairy mucus escaped, and a mucous polypus of the size of a small grape protruded itself through the opening. It was removed, and the opening enlarged by cutting away its bony margin until the finger-tip could be passed; it entered the greatly expanded frontal sinus, which enclosed other polypoid masses. These also were removed, and the cavity was thoroughly cleared. At this moment the patient's respiration and heart failed so much that the exhibition of the anæsthetic had to be stopped and measures taken to restore her. Her critical condition made it prudent to at once terminate the operation, and the establishment of a free opening between the sinus and the nose which had been intended was deferred. She rallied and quickly recovered from the immediate effects of the operation, and a fortnight later returned and placed herself under Mr. Snell's care. For a few months it was hoped that no further inconvenience would remain than the presence of a small fistula under the eyebrow, discharging a little mucus; but in the spring of 1890 she re-entered the hospital, with renewed distension of the upper eyelid and greater protrusion of the eyeball, which had become inflamed and was then disorganised. The eyeball was enucleated and the sinus thoroughly explored through the wound. The orbital plate of the sinus was found largely defective, and the cavity packed with mucous polypi. These were removed, and the walls were thoroughly scraped with a sharp scoop. Some thickening of the postero-superior border of the opening into the sinus gave a probability to the idea of sarcoma, as originally suspected by Mr. Snell. She recovered, and soon went home. Mr. Snell writes on Dec. 28th, 1890: "On March 29th I removed through the unclosed wound three polypi of the size of large currants, and again on April 7th three or four others. I also re-established the opening between the sinus and nose which had closed. Carbolic acid injections appeared to be useful in diminishing the quantity of mucus secreted. Glandular swellings, which in the spring had appeared in the neck, have disappeared. There is now not the slightest sign whatever of any abnormal growth in the sinus or orbit. She is now in better health than for the past three or four years."

These cases show how much more grave is the occurrence of mucous polypi in the frontal sinuses than in the nose; that in these they have a similar obstinate tendency to recrudescence which they exhibit in the latter; and that, owing to their more strict confinement in the sinuses, they more quickly expand and waste the bony walls than they do those of the nose, where their restriction is less. Their differential diagnosis from simple mucocele of the sinus, except in very advanced stages, is probably impracticable, but the presence of nasal polypi affords a useful clue. For their efficient treatment, free access must be gained to the sinus by an incision along the upper orbital margin.

Old Burlington-street, W.

THE HYDERABAD CHLOROFORM COMMISSION.

BY SURGEON-MAJOR EDWARD LAWRIE,
PRESIDENT OF THE COMMISSION.

SINCE the publication of my clinical lecture in THE LANCET of Nov. 29th, 1890, I have received numerous letters from Europe and from different parts of India requesting me to draw up authoritative rules showing briefly the method of chloroform administration which experience, based upon Syme's principles and upheld by the Hyderabad Commissions, has shown to be uniformly safe:—

1. The chloroform should be given on absorbent cotton stitched into an open cone or cap. 2. To ensure regular breathing the patient, lying down, with everything loose about the neck, chest, and abdomen, should be made to blow into the cone held at a little distance from the face. The right distance throughout the inhalation is the nearest which does not cause struggling, or choking, or holding of the breath. Provided no choking or holding of the breath occurs, the cap should gradually be brought nearer to, and eventually may be held close over, the mouth and nose as insensibility deepens. 3. The administrator's sole object while producing anæsthesia is to keep the breathing regular. As long as the breathing is regular, and the patient is not compelled to gasp in chloroform at an abnormal rate, there is absolutely no danger whatever in pushing the anæsthetic till full anæsthesia is produced. 4. Irregularity of the breathing is generally caused by insufficient air, which makes the patient struggle, or choke, or hold his breath. There is little or no tendency to either of these untoward events if sufficient air is given with the chloroform. If they do occur the cap must be removed, and the patient must be allowed to take a breath of fresh air before the administration is proceeded with. 5. Full anæsthesia is estimated by insensibility of the cornea. It is also indicated by stertorous breathing, or by complete relaxation of the muscles. Directly the cornea becomes insensitive, or the breathing becomes stertorous, the inhalation should be stopped. The breathing may become stertorous while the cornea is still sensitive. The rule to stop the inhalation should, notwithstanding, be rigidly enforced, and it will be found that the cornea always becomes insensitive within a few seconds afterwards. It is only necessary to add that the patient should be so dressed for an operation that his respiratory movements can be seen easily by the chloroformist. In the climate of India this is not difficult to manage, but it is difficult to manage in the climate of Europe; so that in this respect, and in this respect alone, the chloroformist in England is placed at a distinct disadvantage compared with the chloroformist in India. Proceeding in the above way, chloroform never produces any bad effects, and its administration, in any case which is fit for an operation, is entirely free from danger.

I have drawn attention to the danger of taking the circulation as a guide as to the effect of chloroform,[1] and should not further allude to it but for an article on chloroform administration by Dr. Dudley Buxton in THE LANCET of Dec. 13th, 1890. This article is by far the cleverest that has yet appeared from our adversaries, but Dr. Dudley Buxton's teaching condemns itself. His plan of giving chloroform is—"(1) To use Lister's open method or Krohne and Sesemann's recent and useful modification of Junker's inhaler; (2) to test the vigour of respiration by placing my hand over the mouth; (3) to watch the colour of the patient's face and ears; (4) to keep a finger upon an artery—always testing the initial rate and force of the pulse in that artery at the commencement of the operation."

The first remarkable point in these rules is that no fixed principle of chloroform administration is laid down. The chloroformist may employ indiscriminately the open method or an inhaler, according to his fancy. In the second place, if the chloroformist places one hand over the mouth to test respiration, and keeps the finger of the other upon an artery, as Dr. Buxton recommends, it is difficult to understand how the anæsthetic is to be administered, unless the patient is to do it himself. The severest condemnation of the method, however, is to be found in Dr. Dudley Buxton's own words. He says: "Proceeding in this way I have sometimes found that the heart flags even when the respiration, judged by the eye and the plan above mentioned, shows no alteration; that not only is there evidence of general feebleness of circulation, but that distinct and unmistakable cardiac enfeeblement occurs. Further, this is progressive, and likely, it has appeared to me in more than one case, to end in cardiac syncope, unless prompt and vigorous measures were used." This shows plainly that the plan is faulty, if not impracticable; in fact, it stands self-condemned. There is never any dangerous enfeeblement of the general circulation or of the heart in the method of giving chloroform recommended by the Hyderabad Commission. Dr. Dudley Buxton can readily satisfy himself of the truth of this statement by giving our method a thorough and impartial trial. None of our critics have done this yet, but if one fair-minded man of Dr. Buxton's calibre were to do so, he would infallibly convert himself to our views, and the conversion of the rest of London would follow in time as a matter of course. Dr. Buxton states that "having once seen the heart relax and dilate under chloroform, as in Professor McWilliam's experiments, one recognises the anatomical counterpart of the procession of events which one has encountered again and again in the operating theatre." This statement goes far to prove that there must be some fallacy about Professor McWilliam's experiments. As a surgeon I care very little what happens to the heart when it is subjected to such abnormal treatment as is involved in laying open the thorax and pumping chloroform into the lungs in order to prove that it is directly affected by chloroform. We might just as well pump in boiling water, and then tell old women they are not to inhale steam when they get bronchitis. But it is interesting to be told by such an authority as Dr. Dudley Buxton that Professor McWilliam's results form the anatomical counterpart of a method of chloroform administration which causes general feebleness of the circulation and of the heart, and there is very little doubt that they do. Professor McWilliam's premiss that heart failure is not necessarily accompanied by a fall of blood pressure is manifestly unsound, and his description of rhythmic cardiac relaxation and dilatation, under chloroform, is open to the fatal objection that he has not shown that the movements of his base line, by which they were estimated, were not produced by relaxation of the diaphragm, pushing up the heart through his artificial opening. If his heart dilatation can really occur without fall of pressure, or when chloroform is properly given, it must be a natural condition and free from risk.

The Hyderabad Commission has proved that there is no such thing as chloroform syncope, and that in death from an overdose of chloroform the respiration always fails before the circulation. What the harmless fall of blood pressure in normal chloroform administration is due to, as well as what happens to the heart after the respiration failed from overdosing, which are the only two points left open to discussion by the Hyderabad Commission, must be entrusted to physiologists to determine. In the telling words of Dr. Bomford, "it is sufficient for us as practical men to know (1) that the heart is the very last organ to give in under the action of chloroform, and (2) that there is no more danger of permanently paralysing it in chloroform administration, than there is of paralysing the legs and giving the patient paraplegia."

[1] THE LANCET, Nov. 29th, 1890.

PRACTICAL NOTES ON THE ADMINISTRATION OF ETHER AND CHLOROFORM.[1]

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IT is my intention to make some remarks upon the considerations which guide us in cases about to be operated upon under general anæsthesia by ether or chloroform, and then to proceed to describe briefly some details of their administration. Ether and chloroform are not free from danger; but any patient upon whom it is determined to operate is suitable for anæsthesia, or, at any rate, a trial of it. One is guided in selecting the anæsthetic by the state of the patient's health as to chronic disease, lung and heart mischief, alcoholism, and the nature of the operation, as well as the age of the patient. The chief danger in patients

[1] A paper read before the West London Medico-Chirurgical Society, Feb. 6th, 1891.

suffering from chronic disease and wasting disease is in prolonged operations, especially when they involve any considerable loss of blood, as these patients have not the same rallying power, and special precautions against their collapse should be taken. They generally take the anæsthetic well, however, and require less of it than stronger persons. Patients suffering from acute disease, attended by shock or collapse, require all the attention of the anæsthetist, as their failure is often sudden. Operations undertaken in such cases are to give the patient the best hope of life, and probably could not be accomplished without anæsthesia, which is sufficient justification for the risk entailed. Ether is as a rule preferable in these cases, and often seems to improve the condition of the patient. Heart disease should not preclude the administration of an anæsthetic. In such a case the circulatory and respiratory symptoms may become alarming, so that the observation and confidence of the anæsthetist will be fully exercised, and sometimes, although rarely, it may be prudent to discontinue the administration altogether. Ether is to be preferred. In chronic or acute lung disease chloroform would be much more suitable than ether, and, especially in the latter class of cases, should be given cautiously, care being also taken not to administer more than is requisite. This remark applies also to cases of empyema, in which it is advisable to give only so much as is absolutely necessary. Another class of cases in which it is important to give as little as will suffice is that of brain surgery, and chloroform here has the advantage over ether in lessening congestion and hæmorrhage. It is remarkable how small a quantity of chloroform is sufficient for these patients, especially if a small dose of morphia has been previously given. In chronic renal disease chloroform has caused coma, and ether is therefore to be preferred. It is true that in abdominal surgery greater muscular relaxation and less tendency to cough will be obtained with chloroform. But I prefer ether. In many of these cases in which I have given it I have been quite satisfied, but I have often commenced with ether and found it necessary to change to chloroform.

In operations about the mouth and throat, as for removal of the tongue or extirpation of the larynx, if the surgeon considers it expedient to perform tracheotomy as a preliminary, and a sponge be lightly placed in the pharynx or a Hahn's tube be placed in the trachea, the difficulties and dangers of administering the anæsthetic in such cases are very much lessened, as blood is thereby prevented from getting into the air passages, and the effect of spasm of the glottis is removed. In all such cases, whether tracheotomy be performed or not, chloroform is the preferable anæsthetic, and when the patient has been anæsthetised in the ordinary way the supply of chloroform may be kept up from a Junker's inhaler through a tube without the face-piece. Take care that the bottle of the Junker's apparatus is only one-third filled with chloroform, and that the indiarubber tubes are properly applied to the metal tubes each to each, or liquid chloroform instead of vapour will be administered. The danger of the accident does not require to be pointed out here by me. Ether is scarcely available, as the apparatus would be too often in the operator's way, and when the actual cautery is in use its inflammable nature makes it very dangerous. Alcoholic patients present difficulties on account of their becoming more congested, often struggling greatly, being more liable to spasmodic actions, and on account of the far larger quantity of anæsthetic they require, but once under generally give little further trouble. Ether suits them better than chloroform. The age of the patient also influences the selection of the anæsthetic. For infants and young children chloroform is always used. In older children and adults ether is also available, and in old age chloroform again has greater favour. For fairly healthy aged patients chloroform is best, but when there is evidence of considerable circulatory failure ether should be used; and in the absence of bronchitis an old man with an extremely weak, very irregular and intermittent pulse, with much anæmia, may even be improved by the ether, as happened in such a gentleman, nearly seventy, weighing 16 st., who had a leg amputated for gangrene, and to whom I gave ether. In that case I believe chloroform would have caused alarming, if not fatal, symptoms, whereas I had no cause for anxiety during the administration of ether. Anæmic patients are generally quieter than others in taking an anæsthetic, but they have the disadvantage of failing more rapidly and suddenly. Whenever possible patients should always be properly prepared for anæsthesia. In cases that are not urgent it may even be thought advisable to improve the patient's general health before operating, and it would be well if all patients were rested in bed for a day or two before any major operation.

For the immediate preparation, care should be taken that only a light meal of beef-tea and dry toast, or the like, at least three hours previously to, and exceptionally a little stimulant shortly before, the operation, be given. In some extreme cases an enema of brandy and beef-tea administered previously to operation is serviceable. There should be nothing tight or constricting in the garments of the patient to interfere with thoracic or abdominal respiration, and the administrator should satisfy himself that there are no foreign bodies in the mouth, such as food or false teeth. Have at hand a pair of tongue forceps, and, as sickness is generally sudden, a basin, soap-dish, or bowl of some kind, before commencing. The temperature of the operating chamber should be 60° to 66° F., and loss of body heat be prevented, as far as possible, by avoiding undue exposure of the patient and the use of blankets. My experience of anæsthetising patients who have recently received morphia does not encourage me in the practice, except perhaps in brain cases. All physical examinations should be made before the patient is on the table, when it is well not to delay the administration, and any conversation in the patient's hearing then often seems to give rise to trouble by unnerving him. The anæsthetic may be administered to the patient in the several positions of the horizontal, supine, lateral, or prone, and in the oblique or sitting posture. The horizontal supine position with the head slightly raised is the most convenient and best. It may be useful to raise the shoulders when the lungs are embarrassed; but the great point is to see that the patient is lying comfortably, otherwise resistance and struggling will be encouraged. When it is necessary for the operation that the patient be in one of the other positions, except the oblique, I prefer to change the position after administering in the horizontal supine. If the head be kept on one side the escape of saliva and mucus from the mouth is facilitated, and falling back of the tongue less likely to occur; but unless there is necessity for turning the head on one side, I think it better not to do so. Raising the patient during or soon after anæsthesia from a recumbent to a sitting or upright position is likely to give rise to syncope, and should be avoided. I have seen this occur after the administration of ether for only ten minutes. In the removal of post-nasal growths I am accustomed to let the patient's head hang over the end of the table, that the considerable hæmorrhage which takes place may escape from the nostrils, and not have the opportunity that it might otherwise have of flowing into the larynx and trachea. In these cases I do not deeply anæsthetise the patients, and have always used chloroform for them.

For the administration of ether I use Clover's small apparatus, and as a rule sprinkle chloroform on a piece of folded lint about the size of a closed sheet of note-paper. The actual rate of administration of ether or chloroform depends greatly upon the depth and frequency of the respirations and the influence of temperature, the volatility of ether being especially increased by warmth. Anæsthetics affect individuals in different degrees from causes some of which have already been referred to. The approximate effect of these factors should be closely observed, and the administration conducted accordingly. The complications that arise in administering ether or chloroform are numerous. The patient may be nervous and afraid of the anæsthetic, and resist the presence of the apparatus, especially when physical examinations are made upon the patient while still conscious, or if conversation is going on around, or should the administrator appear at all diffident. Confidence can be given by a word or two of encouragement, firmly expressed. If the breath be held at this stage, ask the patient to breathe deeply, or appear to take no notice, whichever seems best; and in either case the patient will soon commence to breathe or proceed to give forcible resistance, when it is better to remove the apparatus and after a little encouragement make another attempt, which is generally successful. When ether is employed it is well to allow the patient to respire several times the air contained in the bag before turning on the ether, which should be gradually increased as the patient becomes accustomed to it. When the patient has lost consciousness there may be spasm, involuntary resistance, and more or less arrest of respiration, in which case the jaw should be raised, which

often has the effect of causing respiration, and the anæsthetic pressed. So long as the pulse is good the supply of fresh air may be limited, notwithstanding considerable cyanosis. In regard to chloroform any cyanosis calls at once for more air. Should any doubt arise in the mind of the administrator while the respiration is arrested or irregular, the pulse and pupil will guide him as to interference. Coughing may be stopped by diminishing the supply of ether or, if necessary, allowing a breath or two of fresh air. When anæsthesia is complete, the corneal reflex is abolished; and, if extreme, the pupil, which has been variable during the administration, becomes dilated and fixed, and under chloroform the pulse is slowed. Cyanosis should be avoided by removing the apparatus during two or three respirations when it appears necessary. More excitement, spasm, cyanosis, and arrest of respiration occur when the patient receives during administration a larger admixture of air than is perhaps intended. When chloroform is used, fifteen drops to a drachm may be sprinkled on the lint, which is then held several inches from the face during several respirations, and gradually brought nearer until it forms a dome over the mouth and nose, the edges falling lightly upon the face, more chloroform being sprinkled on the lint from time to time previously to its being turned over. The respiration should be carefully watched, and any cyanosis, as before stated, calls at once for a greater supply of air. The patient often rambles in speech, and more or less spasm of the muscular system occurs, the patient struggling to get up, while at the same time respiration is often arrested. Soon this stage is succeeded by deep respiration, passing off of the spasm, and the completion of the anæsthesia, when the pulse will be found to be slow, the corneal reflex abolished, and the pupil fixed, though not necessarily dilated. Should the chloroform be suddenly discontinued or unduly diminished up to this time or now, what is known as primary chloroform syncope is likely to occur, and is to be carefully avoided.

The influence of anæsthesia upon respiration and circulation is so great and important that I need offer no apology for introducing here one or two physiological deductions. Experiments show that dyspnœa occurs when there is no obstruction to the exit of carbonic acid, and that, if plenty of oxygen be supplied, dyspnœa does not occur, although the carbonic acid may be in excess. The respiratory centre in the medulla oblongata governs respiration independently of consciousness, and is evidently stimulated by deficiency of oxygen in the blood; it may also be influenced by impressions made on the nerves of the skin. The organism after a time adapts itself to vitiated air, but this can only take place at the expense of a depression of all the vital functions; and when therefore the respiration is shallow during the induction of chlorotorm anæsthesia, the administrator must be on the look out for cessation of respiration and syncope. It may be well, also, to recall briefly the effects of the quantity and quality of the blood upon the vaso-motor centre. It has been found by experiment that, although the blood pressure sinks whilst large abstractions of blood are taking place, as soon as the bleeding ceases it rises rapidly, and speedily becomes normal, due to the regulation of the peripheral resistance of vaso-motor nerves. The small arteries contract—due to the stimulation of the vaso-motor centre—from diminution of the supply of blood, and therefore of oxygen. Failure of the blood pressure to return to normal in the case of too great abstraction of blood must be taken to indicate exhaustion of the centre and consequent want of regulation of the peripheral resistance.

The quality of the blood supplied to the heart has a distinct effect upon its contraction, as too watery or too little oxygenated blood must interfere with its action. The agents during an operation influencing the general condition of the patient are therefore in part attributable to the anæsthetic and in part to the operation, the deprivation of oxygen from the respiratory and vaso-motor centres being brought about by the administration of the anæsthetic and loss of blood combined, both tending in this way to the exhaustion of these centres. The anæsthetist has some control over the amount of deprivation of oxygen in his method of administration, and so over the respiratory and vaso-motor centres; but the loss of blood, over which he has no control, may exhaust them.

During the administration of an anæsthetic untoward symptoms may at any moment arise. For undue cyanosis or arrest of respiration, whether on account of spasm of the glottis or falling back of the tongue, the anæsthetic should be wholly or partly temporarily withdrawn and the jaw raised, which manœuvre is often followed by a deep inspiration. If necessary the tongue should be drawn forward, and if matters are not now improving—i.e., if respiration is not re-established—artificial respiration must be at once resorted to, care being taken to perform it slowly; this latter precaution is most important, as is also that of keeping the tongue drawn forward during its performance. When the failure is primarily from syncope, the inversion of the patient, the taking up of a small child by the legs, for instance, and holding it head downwards, is easily done, and in several instances I have found this most effective. Should it appear to have no good effect after half a minute I would resort to artificial respiration, or this may be applied at the same time. I have heard medical men say they would not practise inversion, and understood their reason to be that the sending of blood to the brain charged more or less with chloroform cannot improve matters. I believe the increased supply of blood to the vaso-motor centre, although this blood be charged with chloroform, has made the difference between life and death. Where the recovery from failure of the heart or respiration is rapid, it may not be necessary to administer brandy; but when it is not, it should be given by the mouth or rectum, or both, and where the failure is supervening gradually the anæsthetist must estimate whether it is necessary to administer brandy or not. An injection of brandy per rectum has a marked effect upon patients who are collapsed from the length of an operation, shock, or loss of blood. On one occasion, some three years ago, when inversion and artificial respiration in the ordinary way had failed, I restored the child, two years of age, by closing its nostrils, holding the tongue forward and blowing through the mouth of the patient, so expanding the lungs, then pressing the air out and repeating this until respiration was re-established. It was an hour and a half before the collapse was sufficiently recovered from for me to leave the patient. Wood of Philadelphia, in his paper on Ether and Chloroform read at the Berlin Congress last summer, showed an apparatus for this purpose. Of electricity in restoring patients I have no experience. Nitrite of amyl stimulates the respiratory and cardiac centres and causes dilatation of the peripheral vessels, thus also relieving the heart. I have occasionally used it with apparent benefit.

SOME EXPERIMENTS ON CHLOROFORM AND ETHER.

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THE report of the Hyderabad Chloroform Commission has been read with interest not only in England and America, but also in Germany and Switzerland, where it has aroused widespread discussion and comment. In the latter country especially, which is at present in the throes of a discussion as to the respective merits of the rival anæsthetics, the report of the second Commission was awaited with anxiety and received with much approbation by the numerous advocates of chloroform. On the decision of the Commission becoming known, Professor Kronecker of Bern, whose pupils, Ratimoff and Schmey, had already shown the poisonous action of chloroform on the heart, suggested that I should make a few experiments on the subject. The details of these will be published elsewhere, and I will here state merely the general results.

By the Hyderabad Commission no experiments seem to have been made with chloroform vapour of ascertained concentration, and, as this factor seems to be of considerable weight, I have used an apparatus[1] in which it could be exactly regulated. This consists of two wash-bottles, one-third filled, the one with chloroform, the other with water. Part of the air inspired by the animal passes through one, part through the other, and becomes saturated with chloroform fumes or water vapour accordingly. The proportion of the chloroform saturated to the moisture satu-

[1] Ratimoff and Schemey used the same apparatus in their experiments.

rated air is regulated by two graduated stopcocks (Kronecker's *Schiebhahn*). The two currents unite, and are led by a short tube to the tracheal cannula. Expiration is provided for by a small hole in the sheath of the latter, which is covered by a flap of moist goldbeater's skin, to prevent the inspiration of air which has not first passed through the apparatus. In order to exclude all chance of asphyxial complications, and to allow a regular amount of chloroform to be absorbed in a given time, the air was driven through the apparatus by a machine for artificial respiration. The animals used were dogs and rabbits, and the experiments were carried out at ordinary room temperature (15° to 17° C.). The movements of the heart and respiration were recorded by a heart needle and diaphragm lever, and tracings were taken in almost all the experiments. In the respiratory tracing the curves formed by spontaneous respiration were combined with those caused by the artificial inflation of the lungs, but could be easily distinguished, and the moment of cessation of the former ascertained. When this occurred artificial respiration was generally stopped for a few seconds, to see if any spontaneous movements occurred. I may here state that the heart needle was not found to be an accurate index of the heart beat, as in some cases it continued to vibrate after paralysis of the ventricles, owing to the continued pulsation of the auricles communicating a motion to the ventricles through which the needle passed. In all cases, therefore, in which there was any doubt as to the condition of the heart, artificial respiration with air was resumed, and the heart observed directly by opening the thorax. As soon as chloroform was applied to a rabbit (except when the vapour was greatly diluted with air), the animal began to struggle and the respiration became irregular with expiratory gasps, or almost ceased for a few seconds. Very soon the stage of rapid respiration described by Knoll set in. In those cases in which the air was saturated with chloroform (i.e., in which all the air inspired passed through the chloroform bottle), this stage only lasted from twenty to sixty seconds. In cases in which a lower concentration was used it lasted much longer, sometimes for two hours, but in *all* the spontaneous respiration gradually got shallower without getting slower, till it ceased entirely. The condition of the heart at this moment varied with the concentration in which the vapour had been blown into the lungs. Of seventeen rabbits chloroformed with saturated air, in five the whole heart continued to beat, in nine one or both auricles were in rapid motion while the ventricles were still, in one the left auricle alone was paralysed, while in one the whole heart was in diastolic standstill. In rabbits which were anæsthetised with a mixture of chloroform vapour and air—i.e., in experiments in which the stopcock on the water-bottle was partially open—the whole heart was invariably found beating, but the more chloroform the mixture contained the weaker was the heart beat. Even when only four parts chloroform-bearing air were mixed with ninety-six parts pure air the respiration ceased, though only after from two hours to two hours and a half's exhibition of the drug. With lower concentrations than this I could not obtain narcosis, and did not attempt to find how long an animal could be exposed to the vapour. Ratimoff found that rabbits could be kept narcotised for six hours without the respiration ceasing. Paul Bert, on the contrary, found that dogs died after two hours and a half's constant inhalation if the narcosis was complete. Several dogs were chloroformed by the same method, and in all of these, however concentrated the chloroform vapour, the respiration ceased, while the heart could still be felt pulsating. A rather higher concentration was required to keep dogs narcotised than was necessary for rabbits.

In regard to the restoration of spontaneous respiration, in both dogs and rabbits, I found that success depended not so much on the length of the interval between the cessation of the spontaneous and the recommencement of the artificial respiration as on the concentration in which chloroform had been given. In dogs inflation of the lungs was successful in all cases. In rabbits, on the contrary, it was impossible to restore life when chloroform-saturated air had been used, however soon after paralysis of the respiration restorative measures were taken. When a half-and-half mixture was used, three out of eleven animals could be resuscitated, and with lower concentrations the proportion of recoveries increased till below 25 per cent. all animals could be restored. In one case, in which a 4 per cent. mixture was used, an interval of three minutes elapsed before artificial respiration was begun, and the animal still recovered. The chances of recovery after paralysis of the respiration, in fact, depend entirely upon the condition of the heart, and therefore on the concentration in which the drug has been used. If, as is the case in rabbits, the heart is very much weakened by very concentrated administration, it is impossible to restore the respiration. If, on the other hand, the heart is comparatively unaffected, as in dogs, or in rabbits in which the drug has been administered in a more diluted form, the animal can always be revived provided the necessary measures are taken within a reasonable time. The essential point is that the drug be given in sufficient dilution to avoid its action on the heart, and if this dilution can be sufficiently provided for, observation of the pulse is not absolutely necessary. Although I cannot agree with the Hyderabad Commission that the heart always continues to beat after respiration ceases, yet the difficulty in maintaining the concentration necessary to paralyse the heart simultaneously with the respiration is extremely great, and I should think that in ordinary chloroform administration such a simultaneous paralysis can never occur.

As, in the great majority of my experiments, death was due to the respiration alone, some experiments were made to find the condition of the medulla oblongata during chloroform narcosis. This question was approached by an examination of the reflexes connected with it. I found that these all ceased before the respiration, and returned (in cases where the animal was revived) some time after spontaneous respiration had set in. The more concentrated the mixture, the shorter the interval between their disappearance and that of respiration. The first to cease to act was the corneal reflex, then that on the respiration from the nasal branch of the trigeminus, then the swallowing reflex from irritation of the soft palate or of the superior laryngeal nerve; and, last of all, Traube's active expiratory reflex from expansion of the lungs. The reflexes in dogs were not so carefully noted as in rabbits, but in general presented no marked differences.

The respiratory centre, as Knoll has pointed out, is affected differently in different stages of chloroform narcosis. At first it is acted on by the reflexes first from the nose then from the trachea and lungs Then the rapid stage of respiration sets in. This occurs after division of the vagi, and is due to stimulation of the vagus roots in the medulla, and not to stimulation of the respiratory centre itself; for, if the latter were the case, the result would be, as Marckwald has pointed out, respiratory spasms; whereas, after section of the medulla above the centre and division of both vagi, chloroform breaks up the resulting spasms into regular respirations exactly as weak tetanisation of the vagi does. Last of all, the centre is paralysed by chloroform, and fails to respond to electrical stimulation of the medulla. The blood pressure was registered in several experiments in which the drug was administered in weak concentration, and I found that there occurred a slight rise and then a very gradual uninterrupted fall. In very weak form (4 per cent.) chloroform caused no preliminary rise, but a slow fall from the very first, though so gradual was the change in pressure that it could only be seen by comparing the curves at intervals of ten minutes. No such sudden falls of pressure were seen as have been noted by some critics of the Commission, which is perhaps to be explained by the abundant and uninterrupted supply of air to the lungs. I may remark that in those experiments in which the movements of the heart were registered directly, they never showed any sudden change, but a gradually increasing weakness, which culminated in paralysis or passed off, according as chloroform was continued or shut off.

For the sake of comparison a few experiments were made with ether, and the same stages were observed as with chloroform, death occurring equally rapidly if undiluted ether vapour was used, and being due to paralysis of the respiration alone or with accompanying heart paralysis. In one case delirium cordis was observed after a minute and a quarter's inhalation. Rabbits anæsthetised with pure ether vapour could not be revived by artificial respiration. Dogs always ceased to respire while the heart continued to beat, as also did rabbits to which diluted vapour had been given, and the majority of these could be revived. The reflexes appear to behave in the same way as in chloroform narcosis. Ether was borne in higher concentration than chloroform, and the respiration could be more certainly restored. For example, in one case 8 per cent. was

given for two hours without killing the animal, while with chloroform 5 per cent. was fatal after one hour and a half. This fact is the more striking because a very much larger quantity of ether than of chloroform is given in a concentration of 8 per cent. Theoretically, 2·7 times as much ether as chloroform should be carried to the lungs by a given quantity of air, and by actual experiment I found a proportion of 2·61:1. In both anæsthetics the action on heart and respiration seems the same, a difference in degree only being perceptible. Ether can be given in greater *quantity* with safety; but so long as the *proportion* of drug to air is kept low enough either can be used with safety. The concentration necessary to keep rabbits and dogs "under" chloroform is respectively four and eight parts chloroform vapour (at from 15° to 17°C.) to ninety-six and ninety-two parts pure air. Since, however, the concentration necessary to maintain narcosis varied in different species of animals, no inference could be made as to that necessary for men, and my results would have been incomplete had I not been enabled through the kindness of Professor Girard and Dr. Niehans to carry out some experiments in their operating theatre in Bern Inselspital. In these experiments the anæsthetic was given in the same way as in my experiments on animals, with the exception that, instead of a tracheal cannula, a Y-shaped glass tube was used, the two ends fitting tightly into the patient's nostrils. Expiration was allowed through the mouth, but inspiration through it was prevented by a valved respirator. The patients in general did not object to the method, and one who had to be anæsthetised again some days subsequently begged that the apparatus might be used again instead of the mask. Narcosis was attained in from five to twelve minutes by a mixture of 15 to 20 per cent. of chloroform, and could be kept up by continued inhalation of 5 to 7 per cent. in children and of 7 to 10 per cent. in adults. Almost no excitement occurred. Throughout the narcosis the face and conjunctiva remained red, and in several cases the concentration necessary to keep up insensibility with retention of the corneal reflex was maintained. With ether adults were narcotised with difficulty, and only after prolonged inhalation. Anæsthesia was afterwards kept up by a concentration of 10 to 15 per cent. Children presented less difficulty, requiring 25 to 30 per cent. to induce insensibility, which continued uninterrupted with a concentration of 10 to 15 per cent. In all cases the usual increased secretion of tears, saliva, and mucus was manifested. The difficulty in inducing narcosis with ether seems to confirm the theory of many observers that ether alone is insufficient for this purpose, and must be aided by a partial asphyxia.

The results of these narcoses may be summed up shortly by saying that, to maintain narcosis with chloroform, a concentration of five to seven and seven to ten parts of chloroform saturated to ninety and ninety-five parts pure air must be adopted for children and adults respectively; while, if ether be used, a concentration of ten to fifteen parts saturated to ninety and eighty-five parts pure air is suitable for all ages. The drug may be inhaled in a slightly higher concentration to induce narcosis, but, as soon as the eyelid reflex disappears, the above proportions should be given. The use of the above apparatus (which will be more fully described in the *Zeitschrift für Biologie*) offers an easy method of regulating the strength of the inhalation, but, if the usual method is adopted, the anæsthetic should be poured on frequently and in small quantities rather than at longer intervals and in larger doses. By the latter method of administration the narcosis is rendered unnecessarily, and often dangerously, deep for a short time, and then quickly passes off; while by the former it is kept at approximately the same depth throughout.

SUICIDE OF A SURGEON.—An inquest was held on the 2nd inst. at Berkeley-square, Clifton, on the body of Mr. Walter R. Thomas Hawkins, M.R.C.S., aged twenty-nine years, who committed suicide on the previous day. He had been in practice at North Tawton, Devon, but had lately relinquished it, and on the previous Saturday returned to his mother's residence in Berkeley-square, apparently in good health. On Sunday morning he was found lying on the floor of his bedroom with his throat cut, a razor being by his side. The deceased had no pecuniary difficulties, and it appeared he had committed suicide whilst suffering from a fit of temporary insanity.

A NOTE ON THE BONE LESIONS (USUALLY INSIDIOUS) OF MAMMARY CARCINOMA.

BY HERBERT SNOW, M.D. LOND., &c.,
SURGEON TO THE CANCER HOSPITAL.

(*Concluded from p. 539.*)

THE second physical sign—"the sternal symptom"—which indicates marrow infection in an early stage is not usually noticeable until a period of many months subsequently to the preceding, but is far more conspicuous. A portion of the sternum for about two inches downwards (in the first instance) from the upper margin of the second costo-sternal articulation becomes prominent and seemingly hypertrophied. The condition slowly but progressively increases, so that the upper and lower portions of the bone being unaffected, a marked prominence and curvature result. The deformity is most conspicuous in a broad and well-developed thorax, and can hardly, in a well-marked instance, escape observation on exposure of the chest. I beg to exhibit photographs (for which I am indebted to Dr. T. Johnston English, an able amateur photographer) of five typical cases. The condition I am describing occurs long anterior to fixation of the mamma to the thoracic wall, and when there can be no suspicion of infiltration by contiguity of tissue. (See figure in previous number, p. 538.)

When the mamma has become fixed to the thoracic wall, the appearances may be at first accentuated, but are eventually masked by general infiltration of the parietes. The patients seldom complain of tenderness on pressure or of pain in the part affected; and, indeed, do not appear usually to notice the deformity unless this becomes extreme, the alteration taking place very slowly and gradually. I have known actual tumour formation take place only in four instances; one of the photographs exhibited displays, in addition to the regional curvature above described, a small, irregular, bossy growth from the right lower half of the gladiolus, the primary lesion being situated in the left breast. We sometimes find non-cancerous women with exceptionally prominent sternæ; in these, however, the *manubrium* is also commonly implicated, the prominence commencing at the very top of the bone. In malignant cases its upper border, as above stated, is on a level with the upper edge of the second costo-sternal articulations—i.e., a little above the junction of the manubrium and gladiolus. The gradual development of the physical sign in patients kept under observation for a year or two differentiates it from any natural condition of the parts; and it is often seen after an operation, when all the other tissues (excepting perhaps the humerus) seem perfectly healthy. Though not incompatible with several years of life, it usually contra-indicates, I consider, any operative procedure of gravity. Marked physical weakness, lassitude, and inability to perform ordinary daily tasks are always concurrent, even when no palpable emaciation has taken place. Unless physical signs of intra-thoracic deposit or of pleural effusion coexist, there is no attendant dyspnœa. In explanation of the exemption of the manubrium I need hardly remind you that this is, to all intents and purposes, a distinct bone until very advanced age. Of the twenty-one cases referred to nine exhibited this sternal prominence.

The most typical illustration of bone disease secondary to mammary carcinoma with which I am acquainted is to be found in the museum of St. Thomas's Hospital. No. 673 is the plaster cast of the body of a woman who died in that institution subsequently to excision of the right breast for scirrhus. *No tumour formation is apparent*, but the bones of the trunk have become frightfully distorted. The right humerus and both femora have undergone fracture—the broken ends having subsequently united almost at right angles. The sternum and ribs have sunk until the former appears almost in contact with the vertebral column, the whole thorax being flattened out transversely. The pelvis seems similarly widened and flattened. From the position of the cast, the state of the vertebral column cannot be ascertained; and I have been unable to discover the history of the case. The position of the right breast is occupied by a seemingly healthy scar. The half section of one femur had fortunately been preserved in spirit; and Mr. Shattock has been kind enough to have this

microscoped for me. He finds the growth to be a "typical spheroidal-celled carcinoma of the firm kind, a growth similar to an ordinary carcinoma of the breast." The remaining half of the same bone, the other femur, right humerus, and one patella are mounted as dry specimens, and constitute excellent examples of the so-called "fragilitas ossium," supposed to be the result of carcinoma.

The custom of mounting such examples of malignant bone lesion as dry specimens necessarily prevents their being subsequently available for microscopic investigation. Most pathological museums appear to contain one or more, but the instance alluded to is the only case I have met with in which a portion of the affected bone has been preserved in spirit alongside of the white, spongy, skeleton framework with which you are familiar. The so-called "rheumatic" pains of cancerous disease appear to be a characteristic feature of *mammary carcinoma*, and restricted to cases of the latter neoplasm. So, also, secondary deposits in distant bones would seem to be almost peculiar to the same, instances of malignant new growths arising primarily from bone or periosteum being of course excluded. I have not myself encountered any examples of the phenomenon, except in connexion with breast cancer. The museum of the Royal College of Surgeons contains specimens taken from two cases. No. 1687[1] is a tumour in the parietal bone of a child, secondary to medullary carcinoma of the testis. Nos. 1687A and 1687B are deposits in the skull and left femur of a man, considered to be secondary to primary carcinoma of the prostate. According to the record, however, the fact seems a little doubtful. Three or four other museums at which I have made inquiries do not appear to possess any example of secondary bone deposit, except in connexion with mammary carcinoma. On the other hand, the museum of St. Thomas's Hospital contains twelve specimens of "carcinoma of bone," taken from seven cases. In six of the cases the deposit is secondary to breast carcinoma. That of the College of Surgeons has eleven specimens (Nos. 1670, *et seq.*) also from seven cases of secondary deposit of carcinoma in bone. Two of the latter have just been alluded to; the remaining five are sequential to primary growths in the mamma. Again, of six specimens in connexion with the breast, two are of deposit in the femur, two in the humerus, one of malignant cells infiltrating the dorsal and lumbar vertebræ, and one of nodules attached to the posterior surface of the sternum, but not seemingly growing from the bone itself. In advanced cases of mammary carcinoma, bone symptoms are rarely absent, though, like all the other phenomena of malignant disease, subject to material variations of degree in individual examples.

The conclusions which I beg to submit are—(1) that bone lesions in connexion with breast carcinoma are not exceptional, but an ordinary phenomenon of the later stages of this disease; (2) that the condition depends not solely upon absorption of calcareous salts, but is the result of actual deposit of malignant cells in the marrow; (3) that the marrow, when thus infected, forms a species of "nidus for the resting spores" of the neoplasm, in which the cancer cells insidiously flourish, it may be for several years, without any conspicuous indications of their presence.

APPENDIX OF CASES REFERRED TO.

CASE 1. *Photograph of anterior chest wall exhibited.*—Mary E—— (living), a woman aged sixty, married, cook; no family history of cancer. A scirrhous tumour of the left breast, as large as an orange, of a year's duration, following a blow, was excised in October, 1888; it was freely movable. There was a lymph gland in axilla, of the size of a hazel-nut; the axillary contents were removed at the same time, and the patient was discharged well to all appearance on Dec. 27th, 1888. To the present time (July, 1890), the cicatrix, left axilla, and external tissues of the left chest wall have remained perfectly healthy. The woman is rather stout, has a broad chest, and the mammæ are large and pendulous. In December, 1888, the patient began to complain of aching pains in the left shoulder (shooting down the arm) and across the loins. On Jan. 14th, 1889, thickening about the upper epiphysis of the left humerus and sternal prominence in the site above described were both very marked. On May 6th, 1889, a tumour was found in the right breast. This now (July 2nd, 1890) implicates the whole gland tissue of the mamma, the skin being adherent, but still retains perfect mobility on the chest wall, so that no question of infiltration by contiguity of tissue can arise. There is deposit in the lymph glands of the right axilla. The patient is invalidish, and is unable to follow her occupation, but has no very marked objective indications of failing general health or of visceral contamination. There is a general feeling of lassitude and weakness, for which the obvious tumour formation seems insufficient to account.

CASE 2. *Photograph of anterior chest wall.*—Elizabeth G—— (living) aged fifty-seven, was admitted into the Cancer Hospital on June 24th, 1890. She is a spare woman, with small atrophic mammæ and advanced scirrhous disease of the left breast, noticed one year, but evidently of much longer duration. The whole mamma is infiltrated and becoming adherent to the parietes; a large mass of lymph glands completely blocking up the left axilla and firmly fixed. No ulceration, but considerable œdema of left arm and forearm. Prominence of the sternum, but not so marked as in the preceding case; the epiphyses of both humeri seem fuller than normal, the left slightly more so than the right. No infiltration or œdema of tissues between the mamma, and sternum apparent. "Rheumatic" pains in arm; not in loins.

CASE 3. *Photograph of anterior chest wall.*—Susan D—— (living) aged fifty-three; very short woman, with broad chest; married; nine children, six living; no family history of cancer. The right breast with contents of axilla excised by Dr. Purcell, in March, 1890, for scirrhus, noticed seven months; probably of much longer duration. On July 7th, 1890, marked prominence of sternum at second costo-sternal articulation, over this three small reddish nodules in skin, freely movable, apparently composed of keloid tissue (not of scirrhous); near these two small white scars. The right humerus showed very marked fulness and thickening of the upper epiphysis. The cicatrix healthy, and no palpable malignant deposit in soft parts. No œdema of arm or forearm; no lumbar pain, but continuous gnawing pain like that of rheumatism—worse at night, and then preventing sleep—felt "in the bone" of the right arm as far as the elbow.

CASE 4. *Photograph of anterior chest wall.*—Jane R—— (living), aged fifty-three, single; a spare, much emaciated woman. Atrophic scirrhus of the left breast, of six years' duration, not operated on. No family history of cancer. No injury, much mental distress, and hard work as seamstress. Small mammæ; the left completely infiltrated, shrivelled looking, and adherent to the chest wall. Skin and axillary glands also diseased; the latter small, but firmly fixed. A large goitre, present from childhood. The sternum presents (July 7th, 1890) general curvature and prominence from the second costo-sternal articulation to the attachment of the ensiform cartilage. Close to the latter, on the right of the middle line, is a prominent irregular hard boss growing from the bone; noticed one year and a half; slightly tender. Deposit of scirrhus at base of left lung; just above the crista ilii, on each side, a small subcutaneous nodule of the same, movable. Marked thickening and prominence of right sacro-iliac articulation. No tenderness; this not previously noticed by the patient. Marked lumbar rheumatic pains, complained of for previous twelve months; no pain in the shoulder and no "humerus symptom." (An out-patient at the Cancer Hospital, under the care of Mr. Bowreman Jessett.)

CASE 5. *Photograph of anterior chest wall.*—Mrs. O—— (living), age fifty-three. No cancerous family history; great domestic trouble for several years previously; no injury. In February, 1889, the left breast was excised for advanced scirrhous disease, which had been noticed two years. The whole of the mammary parenchyma was then infiltrated, but the gland was still movable; the axillary lymph glands were considerably enlarged, and were removed at the same time. They were then found to be softened and breaking down, were implicated as high as the clavicle, above which was a slight suspicious fulness. There had been discharge from the nipple of a purulent character (not hæmorrhagic) for four months, and a small cyst was found near the root of the nipple. Examination of humerus negative and no sternal prominence noticeable. A rapid recovery from the somewhat severe operation. On Oct. 25th, 1889, the cicatricial tissue healthy, but three small subcutaneous secondary nodules above and below the scar were destroyed with potassa fusa. The sternum showed marked prominence over the second costo-sternal articulation. On June 7th, 1890, the upper epiphysis of

[1] Pathological Catalogue, vol. ii., part 4.

the left humerus was found to be much thicker in appearance than the right. On July 19th, 1890, the photograph was kindly taken by Dr. T. Johnston English. The sternal prominence and condition of the left humerus remained as before; the upper epiphysis of the right humerus seemed to be also slightly fuller than the normal. The sternal prominence was tender on pressure and the patient also complained of aching down the left upper arm. A fulness just below the left clavicle, evidently due to deposit in the lymph glands upon the axillary bloodvessels; this was the sole manifestation of malignant deposit in the soft parts. General lassitude, but little or no pain; the patient able to get about well, being kept under the influence of small doses of opium.

CASE 6. *Microscopic sections from cancellous tissue of head and shaft of right humerus, ditto of left, from marrow in both bones, from cancellous tissue of lumbar vertebra; the portions of bone from which the sections had been taken also exhibited.*—Sarah J——, a woman aged fifty-one, with no family history of malignant disease, was admitted into the Cancer Hospital on May 2nd, 1890. On examination she was found to have an ulcerated scirrhous tumour of the right breast, about two inches in diameter (including surrounding area of livid skin), becoming fixed to the chest wall. Several glands in the axilla as large as hazel-nuts. Extensive tubercular disease of the left lung was also present, and after admission the patient was found to be insane. No œdema of the arm existed; the disease had been present three years and a half and had been ulcerated two months. The patient had led a hard life, and had received several blows. She was much emaciated. After causing considerable trouble, the patient died on May 24th. The rapid termination was largely brought about by the coexisting cerebral and pulmonary conditions. The amount of malignant disease present should, under ordinary circumstances, have permitted a much longer lease of life (as evidenced by the total absence of arm œdema). No bone symptoms existed during life. The acute mania present precluded complaint of rheumatic pains, and no outward and visible physical sign existed to draw attention to the bones.—*Necropsy:* An emaciated slightly built woman, with small mammæ. In the right breast an ulcerated scirrhous tumour, not very large or prominent, and still retaining some degree of mobility on the thoracic parietes. In the right axilla a cluster of lymph glands, movable, as large as hazel-nuts; in the left one such, the size of a horsebean. Seven or eight small nodules in the subcutaneous tissue of the trunk; several, also of small size, in the liver. No other visceral malignant deposit. The left lung extensively excavated by tubercular disease; the right healthy. Examination of the brain gave negative results. On incision over the upper epiphysis of each humerus an alteration in colour was apparent, the grey epiphysis contrasting with the white shaft of the bone. The point of the scalpel passed readily into the former, which was evidently in great measure decalcified. No change in the consistence of the shaft was noticeable. Under the microscope scirrhous cells (arranged in the typical acini) were found in the above sites, being most abundant in the right humerus, less so in the left, and least in the vertebra (lumbar).

CASE 7. *Section of marrow taken from femur exhibited, showing small group of scirrhous cells; also section of rib.*—Mildred W—— was admitted into the Cancer Hospital on Jan. 15th, 1883, under the care of Dr. Purcell. Malignant tumour of the left mamma as large as a cocoa-nut noticed one year; deposit in axillary lymph glands. Two soft elastic bossy masses grew from the left half of the sternum. In the course of a few months similar tumours appeared on left parietal bone, at the angle of the left scapula, and on the shaft of the right femur. The latter bone underwent spontaneous fracture below the trochanters about a fortnight before the patient's death in Nov. 1883. The microscopic appearances of the primary tumour were those of encephaloid carcinoma—i.e., exuberant proliferation of epithelioid cells, with scanty residual fibrous tissue, a larger proportion of the cells being, however, small and nuclear in appearance than is usually the case. Beside the bone tumours alluded to extensive deposits were found in the lungs and kidneys, the liver and other viscera being healthy. No tumour existed at the spot where the marrow section was taken; a portion of the shaft seen by the section to be of normal calibre. It was obtained and mounted as a specimen of presumably healthy marrow; infection was not then suspected, and the malignant cells were discovered only incidentally. No enlargement of the rib existed, the fragmentary state of the specimen indicates the fragile condition of the bone, reduced to a thin shell of periosteum and bone matrix, enclosing a few loose masses of parenchyma, stained red by picro-carmine. (It is not certain in the case of this last specimen that infiltration by contiguity tissue may not have taken place.)

CASE 8. *Microscopic sections of cancellous tissue in head of left humerus, stained by picro-carmine, also by picro-carmine and logwood.*—Emma B——. Scirrhus of the left breast, with brawny œdema of left arm. Extensive visceral deposits. Bone decalcified; the head of the bone divided by the knife as readily as the soft parts, so disarticulation from the glenoid cavity effected only with difficulty. Microscopically the cancellous tissue eroded by what appears to be cancerous parenchyma, the normal marrow stroma absent.

CASE 9. *Sections of head and upper part of shaft of left humerus; stained by picro-carmine.*—Mary F——. Scirrhus of left breast, with brawny œdema of arm. Same appearances as in the preceding.

CASE 10. *Thin sections of seventh cervical vertebra, infiltrated by scirrhus of mamma; logwood stain.*—Martha S——, aged forty-one. In April, 1888, the left breast was excised for a scirrhous growth, noticed for preceding ten months. In September, 1889, readmission into hospital with a mass of glands above the left clavicle, infiltrated and fixed; some axillary reappearance and an ill-defined fulness over the sixth and seventh cervical vertebræ. The symptoms mainly consisted in progressive weakness and paraplegia. For several weeks before death (in October, 1889) there were incontinence of urine and fæces and also marked cerebral derangement (dementia). The vertebræ in question were found decalcified and infiltrated, with scirrhous cells of typical acinar distribution. No distinct tumour was produced. (No. 1684 in the Pathological Catalogue of the College of Surgeons' Museum, vol. ii., part 4, is a somewhat similar specimen of secondary vertebral deposit with mammary carcinoma, also without tumour formation. The Museum of St. Thomas's Hospital contains an example of the same occurrence.)

ON THE

USE OF PETERSEN'S RECTAL BAG AS AN AID IN SOUNDING FOR STONE AND IN LITHOTRITY WHERE THE BLADDER IS POUCHED OR SACCULATED.

BY REGINALD HARRISON, F.R.C.S.,
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WHERE the prostate is large and the posterior wall of the bladder considerably pouched or sacculated, as is often the case, it is not always easy to bring the point of a metal sound in contact with a stone which may thus be concealed. In this way a stone often escapes detection, whilst the searching for it, by reason of the elevation of the floor of the prostate, is not only thus rendered futile, but at the same time is frequently an extremely painful process. In the same way during lithotrity fragments of stone may become trapped in these spaces, and lead to the persistence of cystitis and the formation of another calculus. I have found the use of Petersen's rectal bag distended after its introduction into the bowel with two or three ounces of water extremely useful in turning out sacculated stones into the larger cavity of the bladder, and in preventing the lodgment of fragments during a lithotrity. By this means the depressed posterior wall of the bladder is brought up almost on a level with the prostatic urethra, thus facilitating the movement of sounds and other rigid instruments, and at the same time tending to turn any sacculation that may exist in this part with its contents, so to speak, inside out. I have tested these points now on several occasions. About the time I was making some observations bearing upon this point I was seeing a patient from whose bladder on two occasions, at short recent intervals, I had removed phosphatic calculi of small size. The prostate was large, there was a con-

siderable amount of residual urine requiring the use of the catheter, and the posterior wall of the bladder was pouched and irregular. As the relief following each of these operations was only very temporary, and the urine was most offensive by the large amount of blood and muco-pus it contained, it seemed probable that there was more calculus in the bladder than could be got at in the ordinary way, and I thought it likely that some form of cystotomy which would admit exploration of the bladder with the finger with subsequent drainage might yield more permanent results. Wishing to avoid this, and considering it possible that a stone might be lodged in a sacculus, I introduced Petersen's bag, as used in supra-pubic cystotomy, and turned out into the general cavity of the bladder a phosphatic stone, having a diameter of an inch and a half, which was readily crushed and evacuated in the ordinary way. The ease with which the manipulations both with the lithotrite and the evacuating catheters were carried on compared most favourably with the two previous occasions. It is now nearly four months since the last operation; the patient remains quite well, and the urine is normal. Previously to this last operation the patient could not sit down with any comfort, by reason, I presume, of the pressure of the fixed stone on the prostate. He can now dispense with the catheter, and as the amount of residual urine does not exceed an ounce, I conclude the sacculation, having once been properly emptied, is becoming less. However, he takes the precaution of washing out his bladder every day with an antiseptic. I do not see how I could otherwise have removed this stone without opening the bladder, or without the use of the lithotrite in a manner which I should deprecate.

Lower Berkeley-street, W.

A NEW METHOD OF NASAL IRRIGATION.

BY JAMES B. BALL, M.D., &c.

WHATEVER difference of opinion there may be as to the amount of direct benefit which medicated fluids are capable of producing, by being brought in contact with the mucous membrane of the nasal passages, there is no room for questioning the importance of cleansing the passages of secretions in every disease in which these tend to accumulate, and more especially if there be decomposition and fetor. For the purpose of cleansing the nasal passages and the naso-pharynx a tepid alkaline lotion is generally preferred, with or without some antiseptic ingredient. Various modes of applying such fluid are in use, such as the spray apparatus, some form of syringe, and the nasal douche. There is no doubt that a hand-ball spray apparatus, throwing a powerful coarse spray, is, when properly used, an efficient means of cleansing the nasal passages in many cases, and it is free from some disadvantages attending other methods of irrigation. Where, however, there is much viscid or inspissated secretion to remove, it is desirable to pass a stream of the lotion through the nasal passages, so that it may enter at one nostril and, passing round the naso-pharynx, flow out at the other. The method in general use for this purpose is the ordinary nasal douche, and with certain precautions it is a safe and efficient method. Unless these precautions be observed, there is some danger of forcing the fluid into the Eustachian tube, or into one of the accessory sinuses, and thereby setting up trouble in these regions. We also find that in many people the contraction of the soft palate, whereby the naso-pharynx is cut off from the lower pharynx during the passage of a stream through the nose, is by no means so continuous and complete as is necessary to prevent some of the fluid from passing downwards, leading to fits of coughing and choking. I have met with persons who, even after much practice, were unable to use the nasal douche with comfort and efficiency.

I was impressed with a description of a simple and ingenious method of nasal irrigation, devised by Dr. Pins of Vienna, which appeared in the *Wiener Medicinische Wochenschrift* of April 19th, 1890, and I determined to give it a trial. Dr. Pins describes his method as one by which a stream may be passed through the nose and naso-pharynx, with not too great force, and by which the naso-pharynx is easily and effectually shut off from the throat below. The apparatus consists of a bottle of suitable size, fitted with an indiarubber cork, through which pass two glass tubes of unequal length. The longer tube reaches to the bottom of the bottle, and is furnished at its upper end with an olive-shaped nozzle to fit the nostril. The shorter tube does not quite reach the upper surface of the fluid, and its upper end is bent to form a mouth-piece. The patient takes the mouth-piece between his lips, while the olive-shaped nozzle is filled into one nostril. He then blows into the bottle, *with cheeks distended*, and the fluid is forced up into the nose, and flows out at the other nostril. With short pauses for respiration, in which he takes in a full inspiration, a pint or more of fluid can be passed through the nose in a few minutes.

It is known that when one expires forcibly, with the mouth closed and the cheeks blown out, the soft palate is firmly contracted and shuts off the naso-pharynx. In using this apparatus the expiratory force meets the resistance of the fluid in the bottle, and is sufficient to force it through the nose. At the same time the force with which the fluid enters is not excessive, and not likely to cause trouble. The shutting off of the upper pharynx is very effectual, the soft palate being strongly contracted and its under margin firmly applied to the posterior wall. The Eustachian is also thereby kept closed, and fluid is prevented from entering it.

I have for some time past used an apparatus (see engraving) constructed at my suggestion on Dr. Pins's principle by

Mr. Basdon (Carr and Co., 171, High Holborn). I have uniformly found that patients use the apparatus with great ease from the first. There is none of the choking and coughing which I have so often found with the ordinary douche. I can confirm Dr. Pins's statement that children very readily learn to use it. Obviously if either nasal passage is completely obstructed the apparatus cannot be used, and if one passage be much less free than the other it is well to observe the same rule as with the ordinary douche, and to use the narrower passage for the in-flow. The apparatus can be fitted with a bottle of any size. Hitherto I have used a 16-oz. bottle, which nearly always contains a sufficient quantity for any one application. In many cases this quantity is sufficient for several applications, and the fluid is warmed by standing the bottle in hot water each time before use.

Wimpole-street, W.

LEEDS GENERAL INFIRMARY.—A highly satisfactory report was submitted to the annual meeting, held on the 5th inst. The receipts amounted to £19,694, and the expenditure to £20,458. The in-patients treated were 5266, and the out-patients 26,585; 784 in-patients were transferred to the Ida Hospital during the year. The average daily number of beds occupied was forty. With reference to the extension of the hospital, for which nearly £31,000 had been promised by the public, the estimates for the work exceeded the amount originally calculated, but tenders, amounting altogether to £32,000, had been accepted. To complete, however, the cost of building and furnishing, a further sum of £7000 will have to be provided. The building is making rapid progress, and it is expected some portion at least may be ready for occupation within the next twelve months.

A Mirror OF HOSPITAL PRACTICE, BRITISH AND FOREIGN.

Nulla autem est alia pro certo noscendi via, nisi quamplurimas et morborum et dissectionum historias, tum aliorum tum proprias collectas habere, et inter se comparare.—MORGAGNI *De Sed. et Caus. Morb.*, lib. iv. Procemium.

SOUTH DEVON AND EAST CORNWALL HOSPITAL, PLYMOUTH.

FRACTURE OF STERNUM, LEFT CLAVICLE, AND SEVERAL RIBS, DISLOCATION OF SCAPULA; RECOVERY.

(Under the care of Mr. W. SQUARE.)

THE occurrence of multiple fractures such as those described in this case is very rare, even as a consequence of severe and rapidly fatal injury. Generally a hopeless prognosis would be given, for fracture of the upper ribs is dangerous on account of the important structures adjacent; and fracture also of the clavicle and of the sternum in the same patient implies an amount of shock from which few could rally. For the following notes we are indebted to Mr. W. Gifford Nash, house surgeon.

W. C——, aged forty-five, a navvy, was admitted on Jan. 7th, 1891, with a history that whilst at work about an hour previously a ton of frozen earth fell on him, crushing his chest. Half an hour was occupied in extricating him. When admitted he was very collapsed, the pulse only just being perceptible. There was great difficulty of breathing. The upper half of the left side of the chest was much damaged, it felt like a bag of bones, and flapped in and out with respiration. There was a slight amount of surgical emphysema in the left clavicular region, and a large effusion of blood. The sternum was broken transversely about the junction of the manubrium and gladiolus. The left clavicle was broken one inch from its sternal end, and at its outer end the ligaments were torn, so that the scapula was dislocated below it. The four upper left ribs were broken near their junction with the sternum, and also near the anterior axillary border. The chest was at once firmly strapped horizontally and obliquely over each shoulder, so as to fix the clavicles. The left arm was bandaged to the side. For the first few days there were great dyspnœa and collection of mucus in the air tubes. Carbonate of ammonia and twelve ounces of brandy daily were given, and morphia occasionally to relieve pain and produce sleep. The effect of the morphia was very beneficial, as during the day there was great dyspnœa, but, as soon as morphia produced sleep, the breathing became quite tranquil. A catheter was required for a fortnight. At the end of three weeks the strapping was changed, and at the end of five weeks omitted. There was then firm union of all the fractures, the acromio-clavicular joint was in perfect position, and the movements of the left arm perfect. The patient is now quite well.

Remarks.—This case at first seemed quite hopeless, and a very bad prognosis was given. The firm strapping gave great relief and kept the very movable fragments at rest. The beneficial effect of the morphia in relieving the dyspnœa was a marked feature of the case. The perfect position of the acromio-clavicular joint after dislocation is also a satisfactory result.

CHALMERS HOSPITAL, BANFF, N.B.

REPORT OF CASES UNDER DR. KOCH'S TREATMENT.

(Under the care of Drs. FERGUSSON and DINGWALL.)

THE following series of seven cases in which tubercular disease was present gives the result of treatment by the method of Dr. Koch, and forms an interesting addition to the evidence as to the value of the treatment. In each the effect of the injections was marked, and in some the ultimate result was most satisfactory. We hope to be able to report later that the improvement was permanent.

CASE 1. *Hip joint disease.*—W. S——, aged seventeen, a boatbuilder, was admitted on April 2nd, 1890. The disease had lasted since childhood. On admission there were numerous sinuses over the region of the left hip-joint, from which there was a profuse discharge. The femur was dislocated upon the dorsum ilii, and ankylosed. The patient was treated with complete rest and generous diet, but little improvement resulted. On May 1st the sinuses were thoroughly laid open, and scraped with Volkmann's spoon. They did well for a time, but gradually returned to the old condition. They were again operated on on Oct. 3rd, and for a time promised to do well, but when the first injection was made (Dec. 28th) the discharge was profuse, and there were as many as eight sinuses. Between these lay raw patches with the characteristic tint of tubercular wounds. Temperature before first injection had been normal for several weeks. The patient was in fairly good health. He suffered a considerable amount of pain when the affected limb was moved.

Treatment.—From Dec. 28th to Feb. 20th he received thirty-one injections. The first was 0·0025 gramme, and the last 0·1 gramme, the latter injection being repeated several times. The reactions have been very variable, the highest being after the second injection (0·0045), when the temperature rose to 101°, and the pulse to 108. There have been reactions with all the injections except the fourth, sixth, tenth, and the last four. There have been few general symptoms. After the first injection the patient had slight frontal headache, and nine hours after he was sick and vomited. He has felt somewhat dull and heavy after several of the injections, but suffered no further inconvenience. Locally there was a marked reaction after the earlier injections. For about two inches around the wounds the skin took on an erysipelatous look, and the discharge from the sinuses became more profuse. Here and there at the edges of the wounds appeared gelatinous-looking nodules, which gradually broke down and disappeared, leaving a healthy, raw surface. He felt the parts hot and burning during the reaction, but afterwards the parts felt easier than before. After the later injections there has been very little local reaction, and the discharge has now almost ceased. The wounds are now reduced to about one-fourth their original extent, and there is but one sinus an inch in depth. The wounds have not made the same progress lately as they did at first, but they continue to improve. Patient expresses himself as feeling much better and stronger. He has now no pain at the hip, and can lie on the affected side and move the leg, which he could not do before. He has gained flesh considerably, and has lost the careworn expression he had before the treatment was begun.

CASE 2.—M. C——, female teacher, aged thirty-two, single. Admitted to hospital on Dec. 27th, complaining of cough, expectoration, general debility, and slight night sweats. Disease of six years' duration. Sputum muco-purulent, and containing numerous tubercle bacilli. Sputum three ounces during twenty-four hours. Cough at times severe. No hæmoptysis. Her sister died of phthisis. On the anterior aspect of left infra-clavicular region there was much flattening, diminished expansion, little or no vesicular murmur to be heard for the numerous moist sounds present during the whole respiratory act, the crepitations being largest between the first and second ribs. Same condition, but not so pronounced, in supra-spinous region. Breath sounds fairly normal in lower parts of lung. Breathing at right apex slightly harsh, but no moist sounds. Temperature for two days before treatment normal.

Treatment.—From Dec. 30th to Feb. 20th she has had thirty-five injections. Marked reactions have followed the third, sixth, seventh, and ninth, the temperature rising to 101·2° after the sixth, and the pulse to 104, but latterly the symptoms were less marked. There have been but slight reactions following the tenth and remaining injections. After the first injection patient felt very dull and heavy, and inclined to sleep. She had also headache. There were a few streaks of blood in the sputum on the second day after the first injection, but none have appeared since. The first injection was 0·001 gramme, and the last 0·1 gramme. Although after several of the injections the general reaction was slight, still, as far as one could judge by auscultation, a local reaction had taken place. This was evinced by diminished respiratory sounds and increase of the moist râles, although not to nearly such an extent as previously to treatment. On the day following the injection the sounds were again dry and harsh. The natural respiratory murmur extends higher up than it did before treatment. She can now lie with ease on the affected side, which she could not do for several years before treatment

was commenced. The sputum is now reduced to three drachms, and bacilli can only be detected with difficulty. Very few moist sounds of any kind are to be heard, but there is loud, harsh, bronchial breathing, along with a creaking noise which seems to be superficial. Dulness less marked, not so extensive. Patient thinks herself much stronger than on admission, and is now gaining flesh. She is up and moving about the hospital, but not out, owing to coldness of weather.

CASE 3. *Lupus of face.*—W. R——, female, aged thirty-nine, was admitted to hospital on Dec. 29th. The disease has lasted for twenty years. Began as a small patch on right cheek, and has gradually spread over the whole of both cheeks, nose, lips, and left side of chin. Parts of the cartilages of the nose are eaten away; they have been scraped several times with little or no permanent benefit. General health fairly good. No chest symptoms.

Treatment.—The patient has received eleven injections: beginning with 0·003 gramme, and the last injection 0·07 gramme. The first reaction was well marked; the temperature of the fifth reached 101·4°. Four hours after the injection the patient complained of oppression in the chest, with slight cough, and a little later she was sick and vomited. The local reaction was very marked, presenting the usual well-known appearances. On each cheek is a large, thick, yellow scab; that on the left cheek is of considerable thickness, and is beginning to separate. From below the scabs there is a considerable muco-purulent discharge. March 7th: Scabs removed ten days ago, leaving raw surfaces, which have now entirely healed under boracic acid ointment. This patient is much improved, but there are still tubercles studded about.

CASE 4. *Lupus of face and leg.*—C. G——, aged twenty-two, female. Disease of thirteen years' duration, and began as a small, hard nodule on the right cheek. Face has been blistered repeatedly, but never scraped. Admitted Dec. 31st. Patient in very good health. Chest normal. Both cheeks, nose, and chin are affected. There is also a large quiescent patch on the posterior aspect of the right ankle and a small patch on the back of the left shoulder. Towards the centre of the affected parts the disease seemed quiescent, while towards the edges tubercular nodules could be seen and felt. The disease also affected the gums, roof of mouth, uvula, and tonsils, these being red and granular. Part of the uvula had been eaten away.

Treatment.—On Jan. 2nd she received a first injection of 0·003 gramme. An hour after the injection the temperature fell to 96·4°, and then began to rise. In eleven hours it reached a maximum of 102·2°, with pulse 108. It kept as high as 102° for fourteen hours, when it gradually fell to normal. On the day after the injection a measly rash appeared over her chest and back. It lasted for about twelve hours. The local reaction was very marked. The gums were very red and swollen, and the patient complained of feeling her teeth "loose." The nodules have disappeared considerably, but are still present, and the diseased parts are, with the exception of the nose, now quite on a level with the surrounding healthy skin. The last injection, given on March 4th, was 0·4 gramme, the largest dose by far yet given at this hospital. In this case no raw surface has been caused, but a great deal of whitish scaly débris has been thrown off. The affected mucous membrane now appears quite normal, and shows no reaction after injection. The patch on the ankle has several times become slightly red, but lately has shown no change, and looks quite cured; no tubercles whatever discernible.

CASE 5. *Pulmonary phthisis.*—J. W——, female teacher aged thirty-eight; no family history of phthisis. Admitted Jan. 3rd, complaining of cough and expectoration. She has also been much troubled with dyspnœa. She has been under Dr. Fergusson's observation for five years, during which time the physical signs have shown very gradual though intermittent extension of the disease. On admission she was much thinner than she had ever been before. The temperature has never been high, even at night. She was most anxious to try the treatment, as she felt herself gradually becoming weaker. Bacilli were found in the sputum. On examination flattening and diminished expansion of left side in infra-clavicular region were found, dulness well marked down to fourth rib, and in supra-spinous fossa behind. Tubular breathing over infra-clavicular region, with cavernous breathing between first and second ribs. Large and small moist sounds over the whole of the same area. Harsh breathing at right apex, with occasional moist râles in supra-spinous fossa. Diminished respiratory murmur in lower lobe behind on left side. Otherwise the chest sounds were fairly normal.

Treatment.—She has received thirty-three injections, ranging from 0·001 gramme to 0·1 gramme, the last being repeated ten times. The highest reaction has been after the fourth injection, when the temperature rose to 100·5°. She has shown no general symptoms beyond feeling somewhat dull and heavy after the injections. Sputum on admission was four ounces and is now six drachms. No marked change has taken place in the physical signs, but the dyspnœa has been entirely relieved, the patient herself saying that it is now a pleasure to breathe compared with what it was before admission. The cough is also much relieved. This patient still reacts to 0·1 gramme, her temperature being normal the intervening two days, and rising to about 100° on the day of injection. She is up and walking about the corridors.

CASE 6. *Lupus of back and nose.*—A. M——, single, aged forty, fishwoman. Disease of fourteen years' duration. First appeared as small nodule on the back of the left shoulder, and has gradually spread since. It has never been quite whole on the back. About five months ago a small nodule appeared on the right ala of the nose. This shortly after broke down, forming a small ulcer. Admitted Jan. 17th, in good health; chest normal. On centre of right ala was a roundish deep ulcer with pouting edges. At the edge of the right nostril was a slight erosion not so deep as the former. Around these were several small hard nodules, and the surface around them had a red appearance. The redness also extended for about an inch and a half upon the right cheek. Over the whole of the back of the left chest were seen old scars, white and seamed, and over the supra-spinous region of the same side was a reddish surface about the size of the palm of the hand, with a small active patch towards its outer edge. Over the right shoulder and extending downwards upon the deltoid region was seen a similar scarred appearance with two active patches.

Treatment.—The patient has received thirteen injections, the first being 0·003 gramme and the last 0·07 gramme. Little reaction followed the first three, but marked reactions were got with the fourth, fifth, and sixth. There was slight local reaction after the first three injections, but after the fourth the affected parts on the nose became much swollen, and the surrounding redness more intense. The ulcer became quite filled up with a brown scar. The active patches on the back and shoulder also became red and congested, but have now ceased to react. The nose is much improved, and shows but slight reaction.

CASE 7. *Pulmonary phthisis.*—P. L——, aged twenty-five, admitted Jan. 22nd. No family history of phthisis. His first illness was in the spring of 1887, when he had a bad cold, and spat up a little blood in the morning for a few days. In Sept. 1887, he had severe hæmoptysis, and consulted a medical man, when perceptible signs of disease in the right apex were found. On the doctor's advice he went to South Africa, but returned in June, 1890. He had no bad symptoms whilst in Africa. On admission the physical examination showed dulness in the right infra-clavicular region, but no difference could be seen on inspection. The breathing in the same region was bronchial, but there were no moist sounds. Bacilli were found in the sputum.

Treatment.—Patient has received nineteen injections, the first being 0·001 gramme, on Jan. 23rd, and the last, 0·1 gramme, on Feb. 20th. He has never felt any difference from the injections, except that after the eighth (0·01 gramme) he had slight difficulty in breathing with inclination to sit up for relief. On auscultation after this injection fine moist sounds were heard for the first time, but these could not be detected three days later. After the tenth injection he had slight cough but no expectoration. The temperature has never been high; after the tenth injection it rose to 100·2°, then fell to normal, and next day rose to 100·6°, which has been the highest reached. Since the fourteenth injection there has been no reaction at all. On physical examination it is now impossible to detect any difference between the two sides beyond a slight difference in the percussion note. No bacilli can now be detected in his sputum. This patient left as "cured" on March 7th.

Besides these cases, there are at present six cases of phthisis, three of lupus, and two of tubercular disease of femur under treatment, but they have not been sufficiently long under treatment to render a report on their progress of sufficient interest for publication.

Medical Societies.

ROYAL MEDICAL & CHIRURGICAL SOCIETY.

Annual General Meeting.

THE annual general meeting of this Society was held on March 2nd, the President, Mr. Timothy Holmes, in the chair.

The minutes of the last annual meeting having been read and approved, the report of the President and Council, together with the financial statement, were presented. The latter had been duly audited, and showed that the pecuniary position of the Society was satisfactory. The permanent endowment fund, which had been established only a little over twelve months, had received some substantial additions. The President then moved that the alterations in the by-laws proposed by the Council be adopted. They were, for the most part, purely technical, and had become necessary owing to the altered circumstances in which the Society found itself. On the ballot being taken, they were declared duly carried. He then delivered his annual address, to which allusion will be found in our last week's number. A vote of thanks for this was proposed by Sir Edwin Saunders, and seconded by Mr. Thomas Smith, who alluded to the desirability of developing the Society in a social direction. The President having been thanked for his gift of a magnificent table for the meeting room, and the usual votes of thanks having been accorded to the retiring officers of the Society, the meeting adjourned. The following were elected to serve as officers during the ensuing year:—President: Mr. Timothy Holmes. Vice-presidents: Drs. J. Langdon Down, George Harley, and Messrs. Howard F. Marsh and Alfred Willett. Treasurers: Dr. Charles John Hare and Mr. John Ashton Bostock. Honorary secretaries: Dr. Frederick Taylor and Mr. J. Warrington Haward. Honorary librarians: Dr. Samuel Jones Gee and Mr. John Whitaker Hulke. Members of Council: Drs. Walter Butler Cheadle, W. R. Gowers, Norman Moore, John Williams, George Vivian Poore, and Messrs. William Harrison Cripps, Charles N. Macnamara, Henry Walter Kiallmark, Herbert William Page, and Knowsley Thornton.

Idioglossia.

An ordinary meeting of the Society was held on March 10th, the President, Mr. Timothy Holmes, in the chair.

Dr. HALE WHITE and Mr. GOLDING-BIRD described two cases of Idioglossia. The patients, who were brothers, were thought by their parents to be suffering from deaf-mutism. This was not so. They heard well, and expressed themselves in articulate sounds. The sounds were unlike those of any known language, but the same sound was always used by the same child to express the same word. Each child had thus a language of its own, and consequently the authors had (at Dr. Perry's suggestion) named the condition "idioglossia." The elder sister of these boys was slightly affected. All the children were remarkably intelligent, and could read any book, understanding what they read, and writing English correctly. There was no observable physical defect; one of them was left-handed. There were traces of insanity in the family. The treatment adopted had been careful training, and the boy who had been longest under treatment showed marked improvement. Owing to the kindness of the Edison Phonograph Company the authors were able to show the phonograms of the children, taken before any treatment was adopted. These exactly reproduced the original speech. The following tables show the speech recorded phonetically:—

Alfred P——.

(*a*) The alphabet. When not otherwise indicated the letters have their usual value:—

a	b	c	d	e	f	g	h	i	j	k	l	m
ah	b	c	d	e	ahth	yee	ahsee	ah	eeyah	tah	ahl	ahm

n	o	p	q	r	s	t	u
ahdī	ū (as in frugality)	p	th	ah	ahsee	t	u (as in few)

v	w	x	y	z.
yee	dahbeyew	aht	eeyah	yahddī.

(*b*) The Lord's Prayer:—

Our	Father,	which	art	in	heaven,
Ah	Sahyee,	yee	ahtee	ee	ahyah,

hallowed	be	Thy	name.	Thy	kingdom
hahdō (o as in hero)	bee	Dah	ah.	Dah	tdō (o as in hero)

come.	Thy	will	be	done	in	earth,
tōm (o as in son).	Dah	yee	bee	dah	ee	ahtsee,

as	it	is	in	heaven.	Give	us	this
ah	eet	tee	ee	ahyah.	Yee	ahtsee	deesee

day	our	daily	bread.
dah	ah	dahdī	bahdī.

Forgive	us	our	trespasses,	as	we
Dōsōyee (os as in hero)	ahsee	ahee	sahpeedee,	ah	yee

forgive	those	who
dōsōyee (os as in hero)	dō (hero)	ū (as in frugality)

trespass	against	us.	Lead	us
sahpee	ahdahthō (hero)	ahsee.	Leedī	ahsee

not	into	temptation;	but	deliver
out (ou as in loud)	eotō (hero)	tahptahsī;	baht	deesdl

us	from	evil:
ahsee	soum (ou as in soul)	eeew (ew as in Matthew):

For	Thine	is	the	kingdom,	the
Soud (ou as in soul)	Dahdī	ee	dee	teedō (hero),	dee

power,	and	the	glory,	for
pardī,	ahd	dee	doudī (ou as in loud),	sō (hero)

ever	and	ever.	Amen.
ahyah	ahdī	ahyah.	Ahyah.

Robert J. P. P——.

(*a*) The alphabet. Unless otherwise stated the letters have their usual value.

a	b	c	d	e	f	g	h					
ahsee	b	c	gee	e	f	dzee	aisee (a as aye, i as eye)					

i	j	k	l	m	n	o	p	q
ace (a as aye)	zaee (a as aye)	kee	l	m	n	o	p	q

r	s	t	u	v	w
ah	ees	kee	ū (u as in frugality)	wee	dahbeeyew

x	y	z.
ēs	y	z.

(*b*) The Lord's Prayer. (The words are spelt the same when he pronounced them as ordinary persons do.)

Our	Father,	which	art	in	heaven,
Ah	Fahwee,	wis	aht	ee	eewee,

hallowed	be	Thy	name.	Thy
hahdee	be	Di (i as eye)	nahim.	Di (eye)

kingdom	come.	Thy	will	be
keedōm (o as in got)	come.	Di (eye)	wēll	be

done	in	earth,	as	it	is	in
ġahd	ee	ef,	ahsee	eet	ees	ee

heaven.	Give	us	this	day
eewee.	Zwivī (first i as eye)	ahsee	dis	gaee (a as aye)

our	daily	bread.	Forgive	us	our
ahee	gayee (a as aye)	bēd.	Forgive	ahsee	ahee

trespasses,	as	we	forgive	those	who
sahpeesees,	ahsee	we	forgive	dōsee (o as in hero)	who

trespass	against	us.	Lead
sahpls	agaeesee (both a's as aye)	ahsee.	Eedee

us	not	into	temptation;
ahsee	not	eekew (ew as in Matthew)	kēekasōm (a as aye);

but	deliver	us	from	evil:	For
baht	geewee	ahsee	vōm	eewīl:	For

Thine	is	the	kingdom,	the	power,
Dahee	is	dee	keedou (ou as in loud),	dee	pahdī,

and	the	glory,	for	ever	and
ahd	dee	gōri (or as in anchor),	for	eewee	ahd

ever.	Amen.
eewee.	Ahmee.

Dr. FREDERICK TAYLOR reported a case of Defective Articulation similar to those communicated by Dr. Hale White and Mr. Golding-Bird. The patient was eight years and a half old, and had no physical defect beyond a very slight arching of the palate. He had three fits at the age of eight months, and had measles and scarlatina at four years. He had never talked properly, and when he came first under observation was almost unintelligible. He, however, understood what was said to him, could read little words, and could write in a child's round hand. When he first came under notice his pronunciation of many consonants, especially p, t, k, s, was defective, and he added the syllables "īdā" and "ēdā" to nearly every word that he spoke. He had been submitted to a modified oral instruction, and was after some months much better. His pronunciation, of two kinds, of the Lord's Prayer, on Dec. 20th and Feb. 3rd, was shown:—

	Our	Father,	which	art	in	heaven
Dec. 20th.—	Ouarda	Farada,	id	arda	a	haida,
Feb. 3rd.—	Ouer	Faerda,	we	ad	a	evven,

	Hallowed	be	Thy	name.
Dec. 20th.—	Howarda	beda	Adarda	dene.
Feb. 3rd.—	Alloōda	be	Thy	rame.

The author regarded this as mainly a defect of articulation, the centres for which might be regarded as less apt for education than those of average individuals. The patients were shown and made to speak out loud, and by means of the phonograph their speech both before and after treatment was demonstrated for comparison.

Dr. PYE-SMITH agreed with Dr. Taylor in doubting if idioglossia was the best term to employ in describing this affection. It was not a peculiar language, but only a perversion of one which was not peculiar. It was only English imperfectly pronounced. The recognition of the peculiarities of pronunciation would have been easier if the authors had adopted a more consistent method of notation. The vowels were difficult to be sure of, but the method of pronunciation of the consonants was not widely different from the imperfect English spoken by children. The prefixing of an initial vowel was peculiar, but it was common in the language of the South Sea Islands, and it also occurred in old French. As to the curious suffixes, these peculiar terminations of words were to be found in the Mexican and even in the Italian languages. If the initial and terminal syllables were omitted what was left was practically English "baby language." He thought that the explanation bore on the question of general development and philology rather than on peculiarity of organs. It was not a want of power in the instruments of speech or in the central organs, but was connected rather with the imperfect speech of children learning to talk, of idiots, and of foreigners, and it perhaps bore some relation to "aglossia," a term he applied to the condition of foreigners who came to England, did not properly learn English, and forgot their native pronunciation. The interest in them therefore was physiological rather than pathological, and as to therapeutics, the efforts of those who had tried to instruct these cases were to be admired.

Dr. HADDEN had met with three cases of this affection during the last eighteen months; they were all of the same kind, all intelligent, with no defect of the palate and with normal hearing. He showed one of them, a boy eight years of age, who spoke before the meeting. He was slovenly in ending his words, and would sometimes transpose letters at the end. Another boy was much worse and made but little attempt to form words. He agreed with Dr. Pye-Smith that the alphabet was not a good test; there were in all about fifty elementary sounds, and an endeavour should be made to find out which of these were impossible of pronunciation. It was noteworthy that in one of the cases he had published, when the boy was asked to write to dictation, he would begin all right, and then would go on to write up and down strokes with no meaning, or would write words which would suggest the language he usually spoke. Some of these patients if speaking deliberately would pronounce well, but if they attempted to speak quicker they would get confused. He thought that much of the language that children learnt was acquired by the oral system, the mother deliberately pronouncing the words so that the child could see the mechanism. Some letters, such as g, j, q, and w, were difficult, and were acquired later, because the mechanism of their pronunciation was concealed. He doubted if these cases were simply instances of persistency of infantile blundering, but they were very like it. In none of his cases could the patients trill the r. The association of left-handedness was worthy of being borne in mind. There was probably no gross change in the brain, and the chief success of the treatment was due to the completeness of the isolation.

Mr. SPENCER WATSON said that though deaf-mutism had been excluded in these cases, yet there might be some defect of the sense of hearing short of deafness, and in this condition certain labials and dentals would be difficult to distinguish. The condition, therefore, would be somewhat analogous to errors of refraction and would be diminished by education. He suggested that imitation might account for part of the peculiarity, and that in one case, at least, the obstruction in the naso-pharynx by adenoid vegetations acted as a causative factor.

Dr. WILKS considered the condition a defect rather of speech than of language; to suppose that children could invent a language of their own was difficult to believe; it was merely a modification of an ordinary known language. But now and then the defect might be deeper; he had seen four cases of children who had never spoken at all, though they were otherwise intelligent. He referred to the case of a boy, the child of French parents, who went to an English school and spoke English well; though he thoroughly understood French he could not speak a single word of it. When a man was drunk, though his expressions were indistinct, he believed that he still followed a rule of speech.

Dr. LANGDON DOWN had had a great deal to do with non-speaking children, but they were mostly of feeble intellect. The cause he thought in the present cases was a defect of hearing, and the effect of the therapeutics pointed in the same direction. He had known of one case to which the term "idioglossia" could perfectly correctly be given; it was that of a girl who spoke a gibberish language of her own, though her sisters could translate it for her to other people.

Dr. MATHESON, as the result of examination of a large number of cases of defective articulation, came to the conclusion that there were usually two elements present: a neurosis, such as insanity or hysteria, with some nasal or pharyngeal obstruction as the exciting cause. Very slight causes such as acute or chronic rhinitis were efficient.

Dr. HALE WHITE, in reply, said that the name proposed had been recommended to him by Dr. Perry as the most suitable. Whether the peculiarity constituted a language or not was merely a question of degree, for many languages were only slightly differentiated from one another. The point was that each of these children had its own language, which was peculiar to each of them. The condition was distinct from defects of speech, such as that in general paralysis, where patients who were once correct were now defective. The view he put forward was strongly supported by Romanes, who had pointed out that occasionally one got "sports" in language. No deficiency of hearing could be detected, and if it were due to this the condition should certainly be commoner. The curious association with left-handedness took it out of the category of mere defects of speech; it was something deeper. His patients were unable to trill the r. He could not make out that it could be explained by imitation. There was no condition of nose or naso-pharynx which could account for the defect.

Dr. TAYLOR, in reply, said that there was no evidence of physical defect in his case. It might perhaps be a congenital failure on the part of the individual to make the most of his opportunities of learning the language; he had not the same cerebral capacity as his fellows for articulating ideas, and in this way proficiency in speaking might perhaps be compared to the varying proficiency amongst different performers on the piano.

MEDICAL SOCIETY OF LONDON.

Adjourned Discussion on Angina Pectoris.

AN ordinary meeting of this Society was held on March 9th, the chair being taken by the new President, Dr. Douglas Powell.

Sir JOSEPH FAYRER proposed, and Dr. DE HAVILLAND HALL seconded, a vote of thanks to Mr. Knowsley Thornton, the retiring President.

Dr. LAUDER BRUNTON proposed a vote of thanks to the retiring officers of the Council. This was seconded by Dr. MITCHELL BRUCE, and Dr. GILBART SMITH replied.

Dr. DOUGLAS POWELL, in a few well-chosen words, thanked the Fellows of the Society for the honour they had done him in electing him President.

Dr. LAUDER BRUNTON reopened the discussion on Angina Pectoris. He observed that it was very rare for a third night to be devoted to discussion in any society, and the fact that the Medical Society had done so on this occasion showed its indebtedness to Dr. Douglas Powell for the admirable paper by which he had introduced the subject. He agreed with Dr. Powell and with the other speakers that the subject of angina pectoris should be treated on a wide basis. In discussing the subject much help might be obtained from the analogy pointed out by Professor Grainger Stewart between the heart and the bladder. Both were hollow, muscular organs, contracting and dilating at fairly regular intervals, and expelling liquid contents. In both slight distension formed a stimulus to contraction, but if the distension became excessive it might cause pain varying in amount from slight discomfort to extreme agony. The sensation of pain was always central, for it depended on a condition of the brain which might be ex-

cited by a peripheral irritation like a diseased joint, but might exist quite apart from any peripheral disease, as in hysteria. A mixed condition might exist which was both central and peripheral, as in the vesical crises of locomotor ataxia, and possibly a similar condition might occur in the heart. Usually distension either of the bladder or the heart not only caused contraction in them, but through the nervous system lessened the resistance of the sphincter in the case of the bladder or of the arterioles in the case of the heart. Disturbance of this nervous relationship might cause excessive distension or pain in either organ, apart from organic disease, giving rise to spasmodic retention or vaso-motor angina. But while the spasmodic character of angina pectoris indicated its nervous origin, it was so frequently associated with diseased coronary arteries and fatty heart that these evidently played a great part in its causation. Angina pectoris might be said to be due neither to high tension alone nor weak heart alone, but to weakness of the heart in relation to the resistance it had to overcome, and it might be brought on either by weakening the heart or increasing the resistance, or both together. In tracing out its pathology the analogy with the bladder was useful. The resistance which the heart had to overcome depended upon the contraction of the systemic arterioles. Of these there were three subdivisions—cutaneous, visceral, and muscular,—and the latter was the most important in relation to the attacks of angina. One of the most striking symptoms of angina was the ease with which it was brought on by muscular action. The first effect of this was to prevent the passage of blood through the muscles and to raise the tension, although afterwards the vessels of the muscles dilated and the tension fell. To this primary rise Dr. Brunton attributed the occurrence of anginal attacks on exertion, and their passing off if exertion could be continued was, he considered, due to the subsequent dilatation of the vessels of the muscles with consequent fall of blood-pressure and lessened resistance. He thought that atheroma of the coronary arteries was so powerful in causing angina because it prevented the supply of blood to the heart being increased on exertion as it ought to be in muscles generally. The pain of angina he considered to be due to distension of the heart, and its more common occurrence in the left than the right side of the heart to be due to the greater ease with which the tricuspid valves became incompetent than the mitral when the ventricles became dilated. Angina pectoris was very rare in children, but one case was recorded of a boy of fourteen in which there were aortic regurgitation and mitral stenosis, and another in a boy of eleven, where there was ossification of the auriculo-ventricular groove, conditions which would prevent dilatation of the mitral orifice and insufficiency of the valves. He agreed with the previous speakers in regard to the necessity for the elimination of waste products, and also for restricted diet in gout, and for the use of iron and arsenic in feeble heart; but he regarded the nitrites as the most efficient remedy during a paroxysm, and, on the whole, iodide of potassium as the most useful in the interval. He showed a tracing which appeared to indicate that it lessened the rise of blood-pressure on exertion, and mentioned a case illustrative of its remedial action.

Dr. MITCHELL BRUCE said that he intended to confine his remarks to some practical clinical points. He deal first with the cases of vaso-motor angina pectoris. He had seen some instances of this character, but he thought that the majority were associated with cardiac lesion. He did not gather from Dr. Powell what proportion he considered these two groups bore to one another, but in his own experience cases of simple vaso-motor angina were excessively rare. The term "vaso-motor angina pectoris" he ventured to consider an unfortunate one, and it was apt to be misleading. An attack of angina was determined not so much by the vaso-motor condition as by the relation of the state of the pulse tension to the state of the heart behind it. It was really a matter of relation between the pressure ahead and the driving power, and in the great majority of instances it was the fault of the heart and not of the periphery. If the term "vaso-motor angina pectoris" were used to express this condition, it was obvious that it overlooked the most important factor in regard to both the pathology and the treatment. He had not found the pulse particularly tense in patients with vaso-motor angina; they possessed usually rather a soft and poor pulse. In aortic cases with angina the pulse was, as a rule, anything but tense, and in Bright's disease the angina only came on when the heart began to fail. If the heart were carefully examined in most gouty people there would be found physical signs of some organic change, not necessarily valvular disease, but enlargement with weakness. The typical gouty people who suffered with angina were men between forty and fifty years of age, who had led an anxious but not active life, and who, having been successful, found themselves now entitled to ease with free living. Such people soon broke down, and presented signs of irregular gout, complaining of diarrhœa, insomnia, eczema, and flying pains. They likewise had palpitation, sometimes actual angina, and were despondent and nervous, with a feeble pulse. It was worthy of remark that the first attack of angina was often associated with a definite act of over-exertion. In many cases they were stout men who, in order to counteract their obesity, took to exercise in an ill-judged way, such as excessive rowing, tricycling, &c., and in this way strained themselves, and afterwards became the subjects of gouty heart. It had often been noted that before an attack of acute gout there was increased pulse tension, but during this period of increased tension the patient was better of his angina. Lastly, the effect of treatment bore out the importance of keeping the cardiac element well to the front. Under certain circumstances iodide of potassium was more valuable than nitro-glycerine, and between the attacks regular gentle muscular exercise was good, the patient attending strictly to his diet. As to purges, he agreed with Dr. Ord as to their value, and if in the treatment of this affection he were limited to one drug, he would select blue pill, which acted wonderfully in irregular gout with angina, though he was unable to explain its method of action. In classical angina he had been struck with the frequency of the small attacks and with the comparative rarity of the large and severe ones. The occasional appearance of gastro-intestinal phenomena in both gouty and organic angina should be borne in mind. He referred to the case of a man aged fifty-six with a weak heart and an intermittent mitral murmur, who suffered from attacks of angina both of slight and of violent degree. One evening, when walking home on a level road, he was suddenly seized with increased pain in the chest and in the left arm. He passed a large motion, became unconscious, and this was followed by vomiting. The temperature rose, cough developed, and moist sounds were present over the base of one lung. He had known of a similarly sudden development of gastric disturbance in three other cases. He considered that instances of pseudo-angina pectoris were deserving of some attention in a debate on the subject.

Dr. DE HAVILLAND HALL, in speaking of gout of the stomach, said that Dr. Brinton, in his classical work on "Diseases of the Stomach," had pointed out that there was really no such thing, but that a certain proportion of cases so called were instances of angina pectoris, while others were cases of gall-stone colic, and that these two affections were often confounded. He himself had collected a number of cases of angina pectoris, and found that two of them gave a distinct history of gall-stone colic. He had known of several attacks which had been directly induced by exposure to cold, and in these cases nitroglycerine answered particularly well.

Dr. SEYMOUR TAYLOR said he had been working at this subject for years past, and he had found that these cases grouped themselves under three headings: the first class were those in whom the symptoms were referable mainly to the cardio-vascular system, the second formed a neurotic group, while the third owned a reflex origin. The majority of the cases commenced between the ages of fifty and sixty, at a time when tissue expenditure overbalanced tissue income; they were of the male sex, and in the better class of life. He agreed that the affection was rare in association with mitral disease, and common in connexion with aortic lesion. In some instances he thought that the cause might be a local degeneration of the vessels of the heart wall. He had seen angina develop in patients the subjects of epilepsy and assume a form akin to tic; in other cases it was associated with glycosuria, or bowel trouble. As to treatment, rest he considered the most important thing; nitrite of amyl should be used with great care and not indiscriminately, and he had seen great relief follow bleeding and calomel purges. With regard to diet, the patient should be treated as if he were being trained for an athletic performance.

Dr. F. LITTLE quoted three cases which illustrated from a practical point of view some of the points mentioned by previous speakers.

Dr. DOUGLAS POWELL, in reply, said that two opinions seemed to be current as to the nature of the pain—one that it was due to spasm or distension, and the other that it was of the nature of a neuralgia. He confessed that to his own idea the theory of spasm or distension presented the most attractive features, and the more he thought over it the more difficult he found it to conceive of the pain as being of neuralgic origin. The majority of the arguments eloquently used by Professor Grainger Stewart against tension or spasm could with little difficulty be applied with equal force against the neuralgic theory. He admitted, however, the difficulty of the objection that the heart sometimes preserved its equability of action during angina, though Dr. MacVail's observations as to the condition of striped muscle under faradaic contraction to some extent disposed of this difficulty. He was unable to agree with Dr. Broadbent and others as to the rarity of mitral regurgitation in angina. He could recall instances of angina in which mitral lesion alone existed, and he thought that in the degeneration commencing in elderly gouty people the mitral valve was usually the first to give way. With regard to treatment, he gave preference to nitroglycerine over nitrite of amyl in most instances, and it might be pushed, with great caution and strict watching, to very large doses with great benefit. In one instance under these conditions in the intervals between the attacks seven minims were given three times daily, and during the attack as much as thirty-five drops repeated at a short interval. As to the eliminative treatment, all would be agreed, and, on the question of exercise in purely vaso-motor cases, regulated exercise according to the constitution of the patient was often of great value; but where there was definite disease of the heart or a definite rise of peripheral pressure, then the greatest caution should be observed in this respect.

Professor GAIRDNER of Glasgow, who was unable to be present at the debate, wrote to say that in the article he contributed some years ago to "Reynolds's System of Medicine" he stated his reasons for not accepting Nothnagel's angina pectoris vaso-motoria as a true clinical description of facts running parallel with Heberden's angina. He was at the present time of the same opinion, and thought the name given a most misleading one. In Heberden's angina there was, no doubt, a vaso-motor element superinduced as a rule upon organic or structural change. Perhaps the most curious point about angina pectoris which had become known to him since writing his article was in reference to the claim so generally maintained in France in almost all dictionaries and monographs, on behalf of a certain M. Rougnon to have anticipated Heberden in the description of the disease as a cause of sudden death. He had dealt with this claim in a note at the end of his article, and had shown it, he thought, to be quite untenable even on the secondhand data then known to him, not having found it possible at that time to obtain access to the original of Rougnon's letter to M. Lorry, dated 1768. The letter, indeed, was rather difficult to procure even in France, as there were only one or two copies of it known to be in existence. But in a conversation he had in Paris with his friend Dr. Lereboullet he managed to interest him in the subject so far that he was kind enough not only to consult the original for him, but to have an extract made of all that was important in it as bearing on this question. Professor Gairdner added that, according to Dr. Lereboullet's judgment, as well as his own, there was no trace of anything like a clinical description of angina pectoris in M. Rougnon's letter, and that the one case of unexpected death he referred to gave no evidence of its being due to that cause. It was impossible to suppose that of the very numerous authorities that had affirmed this claim on behalf of M. Rougnon even one could have intelligibly read the single document on which the claim had been represented as resting. It was quite certain, as was shown long ago by Parry, that Morgagni in 1761 did describe an individual case of angina pectoris, and it was equally certain, he thought, that M. Rougnon in 1768 did not; and yet both in France and Germany the latter had been generally accredited with being the first to make the discovery.

Dr. JAMES ROSS of Manchester likewise wrote regretting his inability to take part personally in the discussion, as he desired to present a theory to account for the distribution of the pains in angina and in other visceral diseases. He stated that his theory was that when a viscus was diseased there was local pain which might be regarded as of splanchnic origin (præcordial pain in the case of the heart). In addition the irritation was conducted to the portion of the spinal cord from which the viscus derived its splanchnic nerve, and thence spread in the grey matter of the posterior horns, whence by the law of excentric projection it was referred to the termination of the somatic nerves derived from the segment of the cord—the second and first dorsal in the case of the heart. This explained the pain shooting between the shoulders and down the inner side of the arm (second dorsal) to the elbow and the ulnar border of the forearm and hand and ulnar fingers (first dorsal). The left was the one most usually attacked, because the left ventricle was the diseased one in angina. Besides these pains, the irritation was conducted inwards along the afferent fibres of the pneumogastric and reflected outwards to branches of the fifth cranial nerve as vertical headache. The close association of the function of the pneumogastric and phrenic might give rise to other disorders. Some cases of angina were, he thought, attended with spasm of the diaphragm, a muscle which derived its nerves from the second and third cervical segments of the cord. Whenever the diaphragm was affected, whether it were by spasm or by inflammation, as in pleurisy, pericarditis, or abscess of the liver, the chief pain was referred to the shoulder and back of the neck, in the region of distribution of the second and third cervical nerves (sensory branches). He thought that this shoulder pain was present in some cases of angina. He followed Gaskell in believing that the splanchnic nerves (visceral) were derived from the cells of Clarke's vesicular column, and whenever these columns were absent in the cord there were no reflected pains.

WEST LONDON MEDICO-CHIRURGICAL SOCIETY.

AN ordinary meeting was held on Feb. 6th, Mr. T. Gunton Alderton, President, in the chair.

Observations on certain Cases of Fatty Heart.—Dr. CLEMOW read a paper on this subject in which details were given of a case of fatty heart associated with obesity and hepatic enlargement and severe dyspnœa. The treatment adopted and recommeded by Dr. Clemow was rest at first, followed by exercise, Oertel's diet, restricted fluid, digitalis, and strychnia. The patient lost weight and girth and gained strength, being able to take long walks without breathlessness or other untoward result.—Dr. TRAVERS agreed with Dr. Clemow, but where there was high specific gravity of urine fluids must not be restricted.—Drs. Campbell Pope and Batten took part in the discussion, and Dr. Clemow replied.

Notes on the Administration of Chloroform and Ether.—Mr. R. LLOYD in his paper (which is printed in full in another column) laid down the axiom that anyone on whom it was desirable to operate was at least fit for attempted induction of anæsthesia. The choice between ether and chloroform depended on the nature of the disease or injury calling for operation, the presence or absence of complications—e.g., heart, lung, or renal malady,—and on the site of the operation. Posture, method of administration, and the effects on the respiratory and vaso-motor centres of anæsthetics were alluded to, and it was urged that morphia should not be given before administration of anæsthetics save in certain traumatic cases of brain surgery.—The paper elicited a prolonged and animated discussion, in which the President, Drs. Orr, Hewitt, C. Pope, Batten, and Silk, and Messrs. Keetley, Edwards, and Benham took part.—Mr. Lloyd replied.

Pathological specimens were shown by Mr. Percy Dunn.

The meeting on March 6th was a clinical evening, Mr. T. Gunton Alderton, President, in the chair.

Mr. STARTIN showed a case of Morphœa.—Dr. CAMPBELL POPE: A case of Skin Disease in a woman exhibiting Scorbutic Symptoms.—Mr. BRUCE CLARKE: A case of Extensive Skin Grafting on the Leg of a Child, who had been run over by a tramcar and denuded of two-thirds the circumference of the skin of the leg, which was subsequently reproduced by grafting strips of epidermis shaved off from another part by a razor, and closely applied to the granulating surface of the wound. Large grafts, as opposed to minute particles of skin, were advocated by Mr. Bruce

Clarke in all cases of skin denudation.—Mr. EDWARDS showed two patients on whom he had operated after inoculation with Koch's tuberculin for Strumous Joint Disease.—Dr. ABRAHAM showed a boy the subject of Extensive Lupus of the Face treated by injection of tuberculin with the best results hitherto obtained by Koch's method. The patient, who was subjected to the most careful scrutiny by many of those present at the meeting, exhibited no trace of the disease, and was an object of great interest to the members of the Society present at the meeting.—Mr. KEETLEY showed a case of Healed Tubercular Index-finger of the Left Hand in a boy where there had been ulceration for six years. The finger healed after the sixth injection. The case was cited, with another, by Mr. Keetley as an example of the value tuberculin injection should prove to surgeons in modifying the tuberculous tissue, and thus aiding the removal of diseased matter. An animated discussion followed the exhibition of this and the previous case, in which Drs. Travers and Alderson and Messrs. Startin, Bruce Clarke, and Lloyd took part.—Dr. BALL showed a patient in whom scraping once only for Lupus of the Tip and Septum of the Nose had removed the disease. No deformity was recognisable in the patient, whose appearance before operation was illustrated by a coloured sketch.—Mr. PICKERING PICK exhibited a patient, whose history he related, on whom he had operated for traumatic epilepsy in 1884. No fits had occurred since fourteen weeks after operation.—Dr. HERRINGHAM showed a case of Multiple Neuritis, probably of alcoholic origin. Drs. Campbell Pope, Symons Eccles, and Mr. Keetley took part in the discussion.—Dr. MCADAM ECCLES showed a case of Multiple Epiphysitis, of syphilitic origin, in a child.—Dr. BATTEN showed a case of Disseminated Sclerosis.

ROYAL ACADEMY OF MEDICINE IN IRELAND.

A MEETING of the Medical Section was held on Dec. 19th.

Case of Left Hemiplegia with Aphasia.—Dr. BEATTY exhibited a young girl, an example of left hemiplegia with aphasia. There was complete loss of taste and smell on the left side, and left hemianopsia was present and symmetrical.

A Case of Scleroderma.—Dr. NIXON read the notes of a case of unilateral scleroderma, in which there was hemiatrophia facialis, atrophy of one side of the body, and alopecia confined to the side of the head corresponding to that of the body implicated. The patient was exhibited, and the existing features of the case dwelt upon. Large patches of morphœa were engrafted upon the sclerodermatous skin. Dr. Nixon gave the reasons why the affection should be regarded as a trophoneurosis, and mentioned the evidences which lent support to the view that trophic nerves existed. He thought it probable that the distribution of trophic nerves was closely related to that of the sympathetic. In his case the treatment adopted was the administration of cod-liver oil and a mixture containing muriate of quinine, tincture of the perchloride of iron, and the liquor of the hydrochlorate of arsenic. The local treatment consisted in the use of warm baths, with shampooing, and rubbing the indurated skin with lanolin. The patient was kept warmly covered, and warned to avoid wet or cold.—Dr. TWEEDY said it was well known that if those cases did not proceed to atrophy they underwent spontaneous evolution, and the thickness of the skin eventually disappeared.—The PRESIDENT said he had never seen a case similar to that of the boy exhibited, but he had seen one of general scleroderma of the whole body, and, beyond interfering with the free movement of the joints and the action of the muscles, there were no contractions or deformities.—Dr. C. J. NIXON, in reply, said no doubt the history of cases of scleroderma showed a tendency to spontaneous evolution. The scleroderma became gradually absorbed by a natural process independently or in spite of the use of drugs, which were of little avail in its treatment.

Cystinuria.—Dr. WALTER G. SMITH read a paper on Cystinuria. The condition is a rare one, and scarcely seventy cases are upon record. A boy aged eight years was reported by his mother to have passed urine of a fragrant orris-root odour, and depositing a greenish sediment. The boy's health was excellent in all respects, and there were no symptoms of urinary irritation. Out of six occasions upon which the child's urine was examined, once only was cystin found. The crystals were identified by their form, solubility in ammonia, and insolubility in acetic acid. Dr. Smith discussed in some detail our present knowledge of the physiology and pathology of cystin. He maintained that—(1) Cystin, or a cystin-like body, occurs in small amount in human urine as a normal product of proteid metabolism; (2) no relationship exists between uric acid and cystin; (3) associated with cystinuria, pathologically, is the occurrence, in the urine and fæces, of certain ptomaines belonging to the class of diamines—viz., (*a*) penta-methylene diamine (cadaverin), $C_5H_{14}N_2$; (*b*) tetra-methylene-diamine (putrescin), $C_4H_{12}N_2$; (4) normal urine and fæces never contain diamines, nor do they occur in cystin calculi; (5) the formation of diamines is due to the agency of specific bacteria in the intestine; (6) the exact nature of the correlation between cystinuria and diaminuria has not yet been determined; (7) cystinuria may persist for years without apparent injury to the health of the patient; (8) the therapeutical indication is to disinfect the contents of the bowel.—Dr. SMITH exhibited some microscopic slides showing the characteristic crystals of cystin.

A meeting of the Obstetrical Section was held on Feb. 6th.

The late Dr. J. A. Byrne.—The following resolution of sympathy with the family of the late Dr. J. A. Byrne was passed *sub silentio*:—"That the Obstetric Section of the Royal Academy of Medicine desires to record its deep regret at the loss it has sustained by the recent death of Professor Byrne, and to express its sincere sympathy with his widow and family."

Parovarian Dermoid Cyst.—Dr. MORE MADDEN exhibited a Dermoid Cyst which he had removed seven days previously from a young unmarried woman at the Mater Misericordiæ Hospital. The patient, a very stout country woman, had been in fair health until a year before admission, when she first noticed a small swelling in left hypogastric region. This increased in size rapidly, its development being accompanied by a continual, dull, wearying, abdominal pain, which subsequently became more and more troublesome, and was then frequently intensified by paroxysms of acute suffering, until she was thus compelled to seek admission into the hospital. On examination, a firm globular intra-peritoneal tumour, then apparently as large as the fœtal head, and freely movable in every direction, was discovered. On laying open the abdominal walls, which were coated by about three inches of fat, the tumour came at once into view, and was punctured with a Wells' trocar, giving exit to about four pints of thin, dark-coloured fluid, and thus enabling the withdrawal of the solid portion of the cyst through a very small abdominal wound. The pedicle was then ligatured, divided from its attachment, the peritoneal cavity washed out, and the wound closed in the ordinary way. Some hours subsequently obstinate and uncontrollable vomiting set in, her pulse rose to 150, and never fell below 140 to the time of her death, three days after the operation. On post-mortem examination, the wound was found fairly united, the peritoneal walls and intestines somewhat congested, but not sufficiently to account for the result, which was probably largely attributable to the fact of the heart and kidneys being found very extensively affected by fatty degeneration. The solid portion of the tumour, on examination by Dr. M'Weeney, proved to be a dermoid cyst, containing hair, a plate of bone, and fatty matter, for the investigation of which he was indebted to his colleague, Dr. M'Weeney.—Dr. W. J. SMYLY showed a Uterus extirpated per vaginam for Carcinoma of the Cervix.—Dr. BAGOT exhibited an Ovarian Cyst which he had removed at the Rotunda Hospital from a young woman aged twenty-two years. She had made a perfect recovery.—Dr. BAGOT also read a paper on "Massage as applied to the Treatment of Incontinence of Urine in Females." He had cured three cases by the use of Brandt's system, omitting some of the steps which he considered useless. He related particulars of these cases which had been treated by Brandt's method, and afterwards directed attention to Dr. Sänger's method. In all cases in which the treatment had been performed by him a cure was stated to have been the result.—Dr. MORE MADDEN felt bound, as a gynæcological practitioner and teacher, to express in the most distinct terms

that he could employ without giving any offence to those from whose opinions he ventured to differ his most emphatic dissent from Dr. Bagot's views with respect to the use of massage in the treatment of incontinence of urine in females, as described in the paper. Apart from the many serious, and by no means merely medical, objections to which the speaker referred at some length as being, in his opinion, almost inseparable from any procedure involving any frequent or prolonged manipulation, whether within or even in the immediate vicinity of the female genital tract, Dr. More Madden believed that the great majority of cases of incontinence of urine in females, when not resulting from parturient injuries or causes, resulted from cystitis; and he was strongly of opinion, from clinical experience, that such cases (as he had elsewhere shown) might generally be more effectually and better treated by other and rapidly curative methods of treatment.

Reviews and Notices of Books.

Studies in Statistics: Social, Political, and Medical. By GEORGE BLUNDELL LONGSTAFF, M.A., M.B., Cert. Preventive Medicine, Oxon., F.R.C.P. With Maps and Diagrams. London: Edward Stanford. 1891.

[SECOND NOTICE.]

THE chapters on the Growth of Nations form, when taken together, a really remarkable narrative. A table, setting forth the different order of precedence of the Great Powers by population in 1850 and 1880, shows in the former year Russia at the top and the United States at the bottom of the list; whereas in 1880 the United States stands second among the Great Powers. France in 1850 occupied the second place on this list, and the United Kingdom the fifth. In 1880 France occupies the fifth place. The political significance, as Dr. Longstaff remarks, of this table is evident. It is intensified by the fact that Germany and Italy, two congeries of petty States in 1850, are now solid nations, while the Austro-Hungarian Monarchy is much more consolidated than it was. At the next census the population of the United Kingdom will be very nearly equal to that of France.

As regards the United States, the author calls attention to the very rapid increase of the coloured population, and its concentration in certain States, as constituting a grave social and political danger to the future of the Republic; "in more than one sense a black cloud may be said to hang over it." And Dr. Longstaff points, by way of illustration, to the abortive experiments in self government by negroes in recent history. We can only briefly touch upon the history, statistical, social, and political, of the French, German, Irish, Scandinavian, and other races in the United States, and in Canada, South Africa, and Australasia, but readers will find much in this history to interest and ponder over. One consideration, at any rate, will occur to them, that as the leopard cannot change his spots, so neither does a race change its real character, temperament, or those habits of generations that have become specific and distinctive, as it were, by being transplanted into a new environment. What does change is not the real but the apparent and factitious; the pretended aspiration or the assumed motive and political grievance soon disappears in a new soil, but the qualities of character remain. The "staying power," the enterprise, persevering energy, and thrift that characterise some races are much the same in the new country that they were in the old. The regret is, however, that it is not the more robust in intellect and character, but the weaker races in these respects, that are the most prolific. Looking at this migration question from the British Empire point of view, it is important to bear in mind that the political centre of gravity is slowly shifting. The populations of our great self-governing colonies in North America and Australasia increase much more rapidly than that of the mother country, so that if the population of the United Kingdom at each census be taken as 100, it will be seen that the united populations of British North America and Australasia, which in 1841 corresponded to 7, in 1881 corresponded to 21. A large proportion of Irish emigrants go to the United States, of English to Australasia, and of Scotch to Canada. The facts, figures, and deductions contained in this section of Dr. Longstaff's book have a direct bearing on the question of Imperial federation.

But we must pass on to other portions of the volume more directly connected with sanitary, medical, and social subjects, and these are all present in the chapter on the Growth of Modern Cities. The same movement appears to be almost universally in active operation. Dr. Longstaff's explanation of the remarkable growth of cities in recent times is that, under modern conditions, with improved culture, better means, and increased facilities of communication, a much smaller fraction of the people is able to provide the food required by the whole body. Then, again, those set free from agriculture apply themselves to supplying the innumerable new requirements of a people living up to a far higher standard of comfort than that which contented their fathers. We have already called attention to the chapter on the Population of London, in connexion with which the author has a word to say as to the health of this mass of humanity. The metropolitan area extends over some twelve miles from north to south, and some seventeen miles from east to west; within this space thirty-nine governments so rule the houses, roads, and drains of their three millions and three-quarters of subjects that for the last ten years the death-rate has been only 22½ per 1000, or but 1 per 1000 in excess of that of the whole country. In the seventeenth century it is believed that the deaths exceeded the births in London, and the death-rate was then about 49 per 1000, or more than double what it is now, and higher by far than the mortality rates of the unhealthiest cities of Europe of to-day. This is a marvellous and creditable stride, and "by patient continuance in well-doing" on similar lines there is every reasonable hope of accomplishing still more. Dr. Longstaff does not take an altogether optimistic view in regard to the enormous scale on which social problems present themselves to the London philanthropist. He would wish that something could be done to prevent the increase in the number of the inhabitants, so as to render it possible to deal with the vast mass of arrears that neglect has allowed to accumulate. His own ideas incline to emigration as the only practicable remedy, only he cautions us to beware of aiding emigration from London itself, as in that case, for every family sent from Whitechapel or Poplar two families will rush in from Norfolk, Devon, or Ireland. It would be far better to stop some of the eighty people daily coming into London from the country, and ship them off to the Antipodes.

As regards Food Supply and Malthus' famous essay, which appeared nearly a century ago, the author evidently considers that the time will come, and that before the end of the next century, when men will once more think seriously of Malthus and his warnings. The growth of population proceeds in a geometrical progression, like compound interest. During the past century the population of the United States has doubled itself in every twenty-five years. The area and resources of the country are very great, but they are not without limit. The demand for food increases every year, not merely in Europe, but even more rapidly in those countries which we are too apt to look upon merely as the granaries of Europe.

We pass over the chapter—and an excellent one it is—on Suggestions for the Census. Chapter XIV., on the Recent

Decline in the English Death-rate, considered in connexion with the Causes of Death, was read before the Royal Statistical Society in 1884, to which Dr. Longstaff has added a postscript in 1890. At page 252 *et seq.* he reduces the chief inferences to be drawn from the facts under review into *précis* form. The decline is mainly to be attributed to the diminished mortality from fever (chiefly enteric) and phthisis, and in a less degree to scarlet fever, diarrhœal diseases, small-pox, diphtheria, and measles. On the other hand, deaths from diseases of the lungs, heart, kidneys, and cancer have increased, the number of deaths now attributed to the last-named disease being double that of forty years ago.

Chapter XV. is on the Causation of Summer Diarrhœa, and the subject is well and lucidly discussed in connexion with three questions: Where, when, and whom does it kill? The opinion is definitely expressed that summer diarrhœa is caused by the pollution of air, water, and food with some product or other of the decomposition of organic matter during very hot weather, and is not simply due to the effect of heat on the nervous system.

Omitting all notice of the chapter on some Statistical Indications of a Relationship between Scarlatina, Erysipelas, Puerperal Fever, and certain other Diseases, except to remark that it is admirably illustrated by coloured diagrams, we come to Chap. XVII., on the Geographical Distribution of Diphtheria in England and Wales, being a reprint of the author's studious and exhaustive supplementary paper to the seventeenth annual report of the Local Government Board. The subject has been so much discussed of late years that our readers are familiar with its general history, embracing as it does some very interesting and curious facts. The distribution of diphtheria is altogether peculiar, and its mortality is not apparently regulated by the same causes that influence the general mortality. Density of population is not a factor of primary importance in the production of fatal diphtheria. On the contrary, its predilection for scattered rural populations and for exceptionally healthy districts, and the striking tendency which the disease has shown of late to invade cities and towns, are well-known and remarkable facts. These are well set forth and illustrated by Dr. Longstaff. The centripetal flow of population from country to cities, the growing aggregation of children in connexion with the Public Education Acts, the long periods over which the poison possibly retains its activity, its increased potency and active evolution under certain undetermined favouring conditions, and the increasing facilities for its spread, are all subjects of extreme interest at the present time. Chapter XVIII. treats of Phthisis, Bronchitis, and Pneumonia: are they Epidemic Diseases? Chapter XIX. deals with the Communicability of Phthisis from a mathematical and actuarial point of view; Chapter XX. with the Seasonal Prevalence of Continued Fevers in London; XXI. with Hydrophobia Statistics, and XXII. forms the concluding chapter of a very laborious, useful, and really remarkable book.

Lehrbuch der Allgemeinen und speciellen Pathologischen Anatomie. Von Dr. ERNST ZIEGLER. Sechste Auflage. Zweiter Band. Jena: G. Fischer. 1890.

THIS bulky volume comprises special pathological anatomy, and its appearance completes the sixth edition of a work that must be regarded as the foremost text-book of pathology of the present day. By judicious editing and revision there is not much increase in the number of pages, although one cannot fail to be struck with the numerous additions to the text and the more systematic arrangement employed in several sections. The number of illustrations, all of which are original, has been considerably increased. The author states that several of the chapters have been entirely rewritten, whilst the bibliographical references (of inestimable value to workers) are more clearly indicated.

It would obviously be impossible to deal in detail with a work which covers so wide a field; but it may serve a useful purpose if, for the sake of showing how thoroughly the author treats his subject, we rapidly run through one of its sections—that, namely, of the pathological anatomy of the lungs. It opens with a brief description of the normal structure of the lungs and of their congenital defects, special stress being laid upon "hypoplasia" or "agenesis" of the respiratory parenchyma, which may be the foundation of a diffuse or cystic bronchiectasis. In rare cases, says the author, the development of the lung may remain rudimentary or in portions—the alveoli be little if at all developed. Then follows a description of atelectasis, congenital and acquired, and after that emphysema receives a full share of attention. Then come the changes due to disorder of the circulation. Congestive hyperæmia is shown to depend upon diminished resistance in the pulmonary circuit, or to the presence of irritants in the inspired air or in the blood itself; and it is a condition which is generally fatal. Hyperæmia from stasis, on the other hand, is not so transitory; it is due to enfeebled cardiac action or to difficulty in the venous outflow. Œdema may result from such stasis, but œdema may also be caused by septic agencies (probably through increasing the permeability of the bloodvessels), or to inflammation, as seen around pyæmic foci. Hæmorrhagic conditions, infarction and brown induration are naturally next considered. Pneumonokoniosis is treated, together with focal broncho-pneumonic processes, the alliance of those diseases, due to dust inhalation, with those of other forms of more acute broncho-pneumonia from inhalation of septic and inflammatory (e.g., bronchitic) products being clearly brought out. It is shown, too, how the type of lung inflammation and its subsequent progress is modified according to the nature of the inhaled material. The whole description of broncho-pneumonia is thus made more intelligible when its etiological relationships are studied side by side with its anatomy and distribution. Lobar croupous pneumonia is defined as "an infective lung disease, which is in the majority of cases caused by the diplococcus pneumoniæ (Weichselbaum, Fraenkel), but may also be excited by other bacteria," notably the bacillus pneumoniæ (Friedländer), as well as streptococcus and staphylococcus pyogenes. How these micro-organisms act has still to be determined; but their occurrence in the sputa, the inflammatory exudation, and in other organs suggest that they may enter by the air passages, and perhaps also by the blood-stream. The rare terminations in suppuration and gangrene are ascribed to special infection; whilst caseation is held not to occur except in tubercular infection. The outcome in induration is evidently regarded as not being so very exceptional. Other forms of pneumonia, septic and metastatic, are next described, and then the pleurogenic interlobular conditions. Tuberculosis heads the list of infective granulomata, and is very carefully and thoroughly dealt with. It is shown how variations in anatomical features are impressed by the mode of entrance of bacilli—whether by bloodvessels, lymphatics, or through the ordinary channels of respiration; and how the tubercular products are mingled with secondary broncho-pneumonic foci; and how, again, in chronic phthisis the occurrence of caseation, excavation, and induration disguises the primary and essential tubercular characters. Syphilitic disease, actinomycosis, tumours, and animal parasites are discussed in turn, the whole section being admirably complete, as well as beautifully illustrated.

This systematic and thorough method obtains through the whole volume, and we cannot avoid expressing the hope

that, when the time arrives for a new edition of the English translation to appear, Dr. Macalister will be enabled to present us with the whole text of this publication, which has (since the earlier editions) undergone such extensive revision as, in the author's words, to constitute it almost a new book.

The Right Honourable Arthur MacMurrough Kavanagh: a Biography. By his Cousin, SARAH L. STEELE. With Portrait. London and New York: Macmillan & Co. 1891.

THIS plain, unpretending narrative is fraught with interest to the medical educationist, to the student of character, to the country gentleman, and to the statesman. Its subject was one of the most striking personalities of the nineteenth century. By an intra-uterine complication, wellnigh unique in the annals of gynæcology,—the umbilical cord constricting and amputating legs and arms alike, just below their upper third,—he was brought into the world with all the disadvantages incident to defective means of locomotion and prehension. On the other hand, by the compensation which nature seldom fails to give in such cases, he had a nobly proportioned head and trunk, and intellectual and moral powers specially adapted, it would seem, to overcome every physical imperfection. The best surgical and orthopædic resources of the day were invoked, but ineffectually, to provide artificial substitutes for the missing extremities, and nothing remained but to make the best of what was given. "By sheer principle and pluck," as his biographer puts it, young Kavanagh trained himself to do nearly everything of which his more favoured fellows were capable—aided, it also appears, by the judicious upbringing vouchsafed him by his singularly gifted mother. In sensory and motor power his muscles acquired a development equal to the most various uses, and while little more than a boy he could write, draw, guide a horse from the saddle or from the box of a carriage, shoot, fish, work a ship, and, in short, perform all the functions and take part in all the sports congenial to his class. An active, open-air life, it will be readily understood, was essential to the maintenance of his health, and this was provided him not only in the extensive and beautiful demesne of his birthplace, but on frequent and prolonged visits to the country seats of his relatives, and, above all, by foreign travel under the eye of his sagacious and accomplished mother.

Mrs. Steele touches lightly on these details, not so much describing to us, as leaving us to infer how he proved equal to the life of travel and adventure to which he was thus early inured. We think the interest of the book would have been increased if the authoress had given a few particulars of the methods employed to overcome as far as possible the physical defects which characterised the hero of the narrative. His letters from Egypt, the Syrian Desert, and the Holy Land, and, better still, his diary of exploration and sport, while still in his teens, from Russia to Northern Persia, from Kourdistan, down the Tigris and Persian Gulf, to the Bombay presidency, teem with evidence of the skill and self-reliance to which his perseverance and energy had trained him, ashore or afloat, on the mountain or in the jungle, facing a gang of Kourdish robbers or a tiger at ten paces. This part of the biography, indeed, in which Mrs. Steele wisely lets him tell his own tale, abounds in dramatic incidents, rare in any book of travel, and absolutely unprecedented in the history of one to whom Nature had denied, and, at the same time, vouchsafed, so much.

His moral development went *pari passu* with his physical. As Mrs. Steele points out, his head and heart were ennobled and refined by the discipline to which he put himself. Instead of the jealous, suspicious, often morose disposition characteristic of those whom nature has visited with corporeal defects, his cheerfulness, *bonne camaraderie*, sense of fun, and benevolence to all, were equally remarkable with his bodily prowess and versatility. Here, again, the influence of his mother is made manifest—in the religious training which culminated in the simplest, manliest, most self-sacrificing piety of which the human soul is susceptible. His entries in his diary, where he seems to hold communion with his "Great Taskmaster," are among the most touching passages in literature, one especially, when, on the eve of completing his thirtieth year, he reviews his past life and owns his indebtedness to God with a resignation and a thankfulness which goes to the reader's heart as it came straight from his own.

We have dealt with the points in which the medical educationist and the student of character will find special interest. The details which address themselves more particularly to the country gentleman and the statesman are less within our province. Even here, however, illustration is not wanting of the salutary self-discipline he underwent to retrieve his disqualifications. When still a mere youth, a younger son without immediate command of money—earning his livelihood, in fact, as a carrier of Government despatches over vast solitudes in India,—he made a remarkable vow, which seems to imply a foreknowledge of what his career was to become. And when that position in life to which he aspired was fulfilled to the letter, he set himself late and early, in leisure moments as in active hours, to discharge its duties aright. He became not only what Sir Charles Russell, in his famous speech before the Parnell Commission, designated him, "a landlord of landlords," but also a statesman, in and out of Parliament, of whom Mr. Gladstone declared publicly that he always spoke with the highest respect. While on the one hand he entered into the *vie intime* of his very numerous tenantry, guarding their interests, advising them in perplexity, visiting and relieving them in sickness, constituting himself, in a word what they fondly called him, "the father confessor," he vindicated them in Parliament, and promoted or averted legislation according as it seemed calculated to do them good or harm. So little of a party man was he that, though nominally a Conservative and generally voting on that side, he was often found supporting liberal measures, and exercising an independence in the debates and the divisions not very agreeable to the official whip. Again, when excluded from Parliament in the general election of 1880, his public activity continued the same, though exerted through other channels, such as the press and the platform; while in critical moments in the government or administration of Ireland he was consulted, as his correspondence amply reveals, by those high in authority to whatever party they belonged.

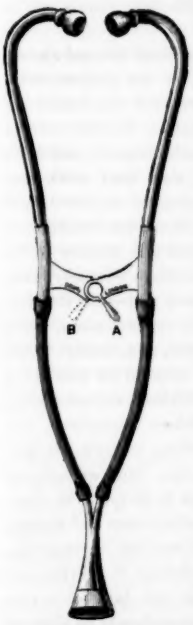
The biography—in which Mrs. Steele has wisely resisted all temptation to book-making—reads like a romance, and ought, as she hints in the preface, to yield a salutary lesson to young men. Rare, indeed, are the examples in which disadvantages seemingly so hopeless were more successfully overcome—in which physical imperfection became so triumphantly "the crown of moral completeness." An Irishman *pur sang*, Arthur MacMurrough Kavanagh was an honour to his country and his compatriots, and as such will long be remembered after the passions and polemics of the day have receded into oblivion.

ROYAL SEA-BATHING INFIRMARY, MARGATE.—On the 9th instant the annual meeting of this charity was held at the offices, Charing-cross The secretary read the report, which expressed regret that, owing to lack of funds, two wards had been closed. This year, however, it is proposed to found a special endowment fund of £50,000, to celebrate the centenary of the institution. Towards this sum Mr. J. Barton of Guildford has promised £1000, on the condition that sixteen donors of £250 each are forthcoming. The number of patients treated during the year was 654. The percentage of cases cured annually increases, it having risen from 23·5 per cent. in 1866 to 52·35 per cent. last year.

New Invention.

AN IMPROVED BINAURAL STETHOSCOPE.

THE weak point of the binaural stethoscope, as usually constructed, is the spring. If strong enough to keep the instrument in position, its constant pressure hurts the ear, and if made weak enough to be harmless to the user, it fails to keep the stethoscope properly applied to the auditory meatus. These remarks apply equally to the common elastic loop and to the metal spring which is now in more general use; besides which, the former has the fault of always slipping out of position, while the latter invariably causes loud musical sounds, which materially hinder accurate diagnosis. I venture to think that I have succeeded in overcoming these drawbacks to the use of the binaural stethoscope by doing away with the spring and substituting a clamp at the joint. This is actuated by a hanging tail-piece or lever, moved by the second finger of the right hand, the arm being held between the first finger and thumb; the other arm is held between the corresponding fingers of the left hand. When the lever is in the position A, the hinge is loose, and the instrument can be applied to the ears and adjusted to press as lightly or as heavily as desired. The lever being then moved into the position B, the instrument is fixed, and remains in position. It can then be easily removed from the ears and closed without touching the lever. A minor improvement consists in enlarging the orifices in the ivory ear-pieces, so that the bore of the instrument may remain in continuity with the axis of the auditory meatus during the rotatory movements round the said axis made in altering the position of the stethoscope.



Messrs. Down Brothers, of St. Thomas's-street, have carried out my idea completely to my satisfaction, and produced an instrument which does everything that I anticipated.

West-street, E.C. GEORGE HERSCHELL, M.D. Lond.

CASE OF ALLEGED POISONING BY ARSENIC.

AFTER a short interval following the many cases of poisoning which occurred in 1889 and the previous years comes the report of another trial for murder by arsenic, this time from Scotland. The trial took place at the High Court of Justiciary, Edinburgh, extending over Feb. 17th, 18th, and 19th, the presiding judge being the Lord Justice Clerk (Lord Kingsburgh). The accused was John Webster, tenant of the Newton Hotel, Southmuir of Kirriemuir, and the following is a brief recapitulation of the principal facts revealed in the evidence. The household consisted of the prisoner, his wife (the deceased), two children, one female servant, and the barman. Neither of the two latter slept in the house. The prisoner and the deceased effected in October, 1889, a joint policy of insurance for £1000 in the Prudential Insurance Company, the amount of the policy being payable to the survivor on the decease of the first. Two premiums of £24 14*s.* 2*d.* were paid, one before the policy was issued—on Oct. 31st, 1889—and the second six months after. The deceased and her husband had a serious quarrel in the following April (1890), which led to a temporary estrangement, but subsequently the prisoner returned to her, and she was in her usual health on Thursday, July 31st. On the following day the servant, Helen Grant, on first seeing her mistress, thought her looking pale. Later on Mrs. Webster, saying she felt sick, lay down on the children's bed and vomited. She ate very little dinner, and in the afternoon vomited again, the vomited matters being, according to the witness Grant's description, "grey and white mixed stuff." The vomiting continued the following day, though potash and milk were taken to allay it, and the deceased also complained of thirst. She had some "brandy toddy" that night, but next day (Sunday) the vomiting continued in spite of repeated doses of potash and milk. That evening about 7 P.M. she was seen by Dr. Clark of Kirriemuir, who had not attended her previously, she and her husband being perfect strangers to him. He found her very pale, weak, and exhausted, complaining of vomiting and retching which she said had commenced on the morning or forenoon of the previous day. She complained of uneasiness and pain in the stomach, which was slightly intensified on pressure. The thirst was very great, and there were no indications of intemperance. Dr. Clark ordered six powders of subnitrate of bismuth, one to be taken every three hours in milk. When he saw her the next day (Monday), between 10 and 11 A.M., the vomiting and retching were slightly relieved, but she was weaker. The powders had been all taken, and Dr. Clark now prescribed oxalate of cerium in doses of one or two grains, to be given every three hours on jelly or buttered bread. When he next saw her, between 1 and 2 P.M. the same day, she was in a state of complete collapse, but conscious. She was very feeble, cold, and pallid. He ordered stimulants to be given and hot applications to the feet and hands, but she died soon after. Dr. Clark certified the death as from gastritis of four days' duration, and the body was buried. But subsequently, in consequence of some suspicions as to the real cause of death and other circumstances, it was exhumed on Nov. 27th and examined by Dr H. D. Littlejohn of Edinburgh and Dr. Clark. It was found remarkably fresh and free from putrefactive odour, this being partly due to the wet condition of the grave, partly also to the presence of arsenic which was subsequently found by Dr Littlejohn and Mr. Falconer King, analyst to the city of Edinburgh. As the necropsy had revealed no appearances of death from any natural disease, Dr. Littlejohn removed the stomach, intestines, liver, kidneys, spleen, one lung, and the uterus for chemical inspection and more minute examination. The stomach was empty; there was externally a yellow patch the size of a florin, internally some dark mucus. Dr. Littlejohn found the presence of arsenic in the stomach, and, on communicating with the Crown Office, was associated with Mr. Falconer King. They found arsenic in all the abdominal viscera and in the lungs. Unfortunately they made at first an erroneous calculation as to the quantity, making that found in the stomach as three-fourths of a grain, whereas upon verification it was found to be less than half a grain. A further examination was made by Professor Crum Brown of the Edinburgh University, with the result that he also found arsenic in all the viscera, and he estimated that, calculating from what he found, the total would be 1·764 grain of arsenic for the whole stomach. Marked quantities were also found in the duodenum and intestines. It was therefore clearly proved that death resulted from arsenical poisoning, the symptoms observed during life, the appearances seen after death and four months' burial, and the chemical examination all bearing out this conclusion. The possibility of accident was apparently excluded, and that of suicide almost equally so. The barman, Peacock, who would have been an important Crown witness, committed suicide by drowning a few days before the trial was first fixed, and his depositions (or precognitions) do not appear to have been tendered in evidence. The prisoner was ably defended, and there were points in his favour, especially the entire absence of any proof of the purchase or possession of arsenic by him. The verdict of "Not guilty" was therefore justified. Seeing that Dr. Clark had only seen the deceased for the first time the day before her death, and only three times altogether, and bearing in mind how often gastritis has been caused by poison, it would have been more satisfactory had a post-mortem examination been asked for before a certificate of death was given.

THE LANCET.

LONDON: SATURDAY, MARCH 14, 1891.

THE five Bills before Parliament, all dealing with our factory legislation, will, we fear, not suffice to do away with the evils of the sweating system. Even if the best clauses of each Bill are grafted on to the Government Bill we shall still have an imperfect measure. No one has studied the question of sweating without realising that, from every point of view, the greatest evils are to be found in the domestic workshops or among the home workers. Even the disciples of the extreme individualistic school are on this point at one with those who, on the contrary, rely principally on the interference of the State. Both sides are aware that the sweater's victim cannot alone free himself from his economic thraldom; but the one party urges that the State should help him, and the other side argues that he should help himself by forming a strong organisation such as a trade union. While, however, the workers are separated one from another, hid away in the noisome dens of the sweater or toiling in their garret or cellar dwellings, they cannot be brought together into an organisation. From the sanitary point of view, it is the working at home in bedrooms and in private dwellings which most offends against the laws of decency and of health. The first object, then, of any measure dealing with sweating should be to reform the present dangerous condition of domestic workshops. Yet Mr. MATTHEWS deliberately exempts domestic workshops from the operation of his Bill. Clause 29 of the Government measure does contain an important alteration exempting from the future Act "a room solely used for the purpose of sleeping therein," whereas the existing law exempts "a place solely used as a dwelling." The sweater can now, on the approach of the inspector, hide his workwomen and "young persons" in any part of his private dwelling adjoining his workshop. In future he will have to hide the women and children he is employing after regulation hours, not in his dwelling generally, but only in his bedroom. There, by Mr. MATTHEWS' considerate clause, the inspector will not be able to follow them. But, says Mr. MATTHEWS, "the Bill does not deal with what is commonly called domestic workshops," and it would seem that he agrees with Lord DUNRAVEN'S definition that a domestic workshop is a place, perhaps merely a bedroom, where only members of the same family work together. Places sufficiently good for a family to live in are, according to the Home Secretary's opinion, sufficiently good for a family to work in. This, we maintain, is not at all the case. First of all, it does not in the least matter whether the workers are of the same family or not. Their relationship to each other does not in any way lessen the amount of oxygen they consume in breathing. We never heard that less ventilation was required for a family gathering than for a gathering of strangers. Nor are the germs of disease less infectious because they emanate from the same family. Also, what are the limits of family relationship? How many times "removed" may cousins be who work together? and does Mr. MATTHEWS seriously imagine that a British magistrate will ever be able to unravel the intricacies of family relationship between the Polish Russian Jews, who, to the number of several thousand, have taken refuge in the East-end of London? It will be found quite impracticable to make distinctions between members of the same family and strangers; and as the dangers to health are the same in both cases such distinctions should not be attempted.

Some of the suggestions which we pressed forward during our campaign against sweating have, we are glad to note, been adopted. On many occasions we have urged that the local authorities are the principal offenders. Mr. MATTHEWS now proposes that where the local authorities do not fulfil their duty the central Government may send down any number of inspectors to "sweep the Augean stables clean." This, too, is to be done quickly and without the interference of local magistrates. Mr. MATTHEWS is further to be congratulated on abolishing the distinctions formerly made between factories and workshops, and between the factories and workshops where adult males alone were employed, where women were employed, and, finally, where "young persons" worked. All are now to be placed on the same level with regard to ventilation, overcrowding, cleanliness, limewashing, &c. Where alterations are necessary, the inspector may cause these to be made and recover the cost by summary procedure. But we miss in the Government Bill a clause which is to be found in other projects of law—to the effect that where men and women are employed there shall be separate sanitary accommodation for each sex. Again, the Bill, though it provides for ventilation in a vague manner, does not lay down any rule as to the minimum cubic space that should be allowed to each worker.

In dealing with the work of women, the Government Bill proposes to do away with the existing difference made between the factories where only women work and those where young persons also work. In both cases the hours of work shall be twelve, with one hour and a half for meals. This will simplify matters, for formerly, where only women worked, the hours were fifteen, with four and a half for meals, and it was no easy matter to ascertain whether the women really did enjoy to the full the four hours and a half of relaxation, as stipulated by the law. These are, however, all very small advantages compared with what we had a right to expect. For instance, no promise is made as to the increase in the number of inspectors; though, on the other hand, the certifying factory surgeons are to be abolished. This very unfortunate proposal was the subject of special criticism in our last issue. There are actually 134,000 factories and workshops registered, and the visits made by the inspectors last year were in all 114,000. Thus the average is less than one visit a year, though a visit every three months would not be too much. Nor is it easy to understand why the Government did not follow the recommendation unanimously given by the Berlin Labour Conference, that children should not be allowed to work before they had reached the age of twelve. Mr. MATTHEWS

allows half-timers to commence work when they are only ten years old. Mr. MATTHEWS also showed himself far too tender towards "season pressure," which is generally a mere question of fashion, of ignorance, and indifference on the part of purchaser and tradesman as to the suffering this pressure entails. If dresses during the season had to be ordered a few days sooner, this would be no great hardship, and it would save many a workwoman from over-pressure, with its inevitable and mischievous consequences on health.

The Government Bill is, in a word, wanting in grasp and scope. It altogether fails to deal with the worst grievance—i.e., the domestic workshops,—though the registration of outworkers and of ordinary workshops is imposed. But if lists of places that should be visited will thus be forthcoming, there is no provision made for appointing inspectors to pay these visits. Finally, if these inspectors are appointed, what is to replace the unwholesome workshops which will be condemned? As we pointed out when the Lords' Committee was appointed, a constructive as well as a destructive policy is necessary. Workshops, like rookeries, must when destroyed be replaced by better accommodation, and no hint whatsoever as to how this phase of the subject will be treated is to be found in the measures before us. Perhaps the discussion in Committee will help to impart greater strength and a wider scope to the Factory Bills now before the House of Commons.

THE debate which has occupied three meetings of the Medical Society, and has just been concluded, deserves attention, not only from the intrinsic interest of the subject—angina pectoris,—but in no small degree from the remarkable breadth of view taken of it by most of the speakers. For it is singular how restricted have been the opinions held in past time concerning angina pectoris, and how, in this respect, medicine has been apparently influenced by that feature which so strikes the popular imagination—we mean the liability to sudden death. No one, however, who has followed this debate can aver that English physicians adhere to any such narrow conception, and many doubtless would agree with Dr. MITCHELL BRUCE in the desire that the term "angina pectoris" could be got rid of. That being impossible, the next best thing is to deprive it of its application to any single morbid state, and, if not adopting Sir WALTER FOSTER'S notion of its being a "mode of death," to at least employ the phrase in a merely clinical sense, as expressive of paroxysmal precordial pain. Obviously, then, the sufferer does not die from the symptom itself; but from the cardiac conditions that underlie it—conditions that may be of organic origin, or of hardly less serious functional derangement. The mechanism of the circulation is suddenly disturbed, and the expression of the heart's difficulty is to be found in the anguish experienced by the patient. With one notable exception the speakers at this debate agreed with the opener of the debate, Dr. DOUGLAS POWELL, in attributing angina pectoris to some defect in the harmonious coöperation of heart and vessels in the work of the circulation. At the same time there were certain divergencies of view as to the precise form of this derangement. All, however, concurred in including under the anginal seizure attacks of the most varied kind, having the one feature of pain in common. The chief points of difference related to the question whether the cardiac condition during the attack was one of muscular spasm or one of over-distension of the cavities; as to the precise share taken by the state of arterial blood pressure in initiating the seizure, and as regards the integrity of the muscular substance. Dr. DOUGLAS POWELL, for instance, attributed many cases to a condition of undue vaso-motor irritability, whereby under comparatively slight influences the arterial blood pressure, previously in most cases unduly high, is increased, leading therefore to a sudden call for increased effort on the part of the heart. Such cases, he maintained, were numerous, and though alarming in symptoms, were seldom fatal. In them the heart muscle was healthy, and they contrasted with the graver type associated with cardiac degenerative changes. Dr. LAUDER BRUNTON'S comparison of the heart with the bladder went further, in explaining the *rationale* of the pain produced by over-distension, but he admitted a predisposing state of heart weakness owing to which the increased arterial resistance, such as is produced in the first stages of muscular contraction, is sufficient to cause undue distension of the cavities. Sir WALTER FOSTER lucidly and simply referred the immediate cause of the attack to over-distension of one or other of the cavities, although in many cases he recognised that the heart was degenerate. Dr. BROADBENT did not allow that heightened arterial tension was at all a constant feature; he laid stress on the dangers of a weakened heart, and candidly confessed that some cases afforded no reasonable explanation. Dr. ORD seemed willing to admit all factors, vascular and cardiac, as provocative of attacks, but distinguished two main groups, dependent upon whether exertion was or was not the exciting cause. Dr. MITCHELL BRUCE contended for an underlying weakness of the heart, which was generally enlarged, and declared that symptoms of vaso-motor disturbance and of increased arterial tension were generally wanting. Indeed, it was manifest that no single theory could explain the varied conditions under which an anginal seizure may arise. The "gouty heart" seemed to Dr. BRUCE to best describe the condition most often present.

Professor GRAINGER STEWART was almost alone in pleading the neuralgic theory, and he would even extend angina to include pain ascribed to aortitis apart from heart disease. The distinction he drew between muscle pain and nerve pain does not seem a very tenable one, and since all the conditions named by him as exciting attacks are equally well explained on the muscular hypothesis, it is somewhat difficult to see the reason for retaining the notion of cardiac neuralgia. The question whether the pain be due, as Dr. MCVAIL argued, to excessive contraction, or, as Dr. SEYMOUR TAYLOR held, to spasm of the heart, or to the mechanical effect of over-distension, like that experienced in the bladder on Dr. BRUNTON'S analogy, is to a certain extent immaterial, except that it emphasises the notion that the condition of the muscular wal rather than that of the cardiac nerves is the primary fact

Dr. MCVAIL attempted to contrast the attacks of pain with the nerve storms of epilepsy, and urged that the mode of onset and the character of the pain should be more carefully studied. The central fact of the whole discussion turns, however, less upon the character of the pain than upon the condition of the heart and bloodvessels; and we believe the views held by the majority of speakers as to angina pectoris being an index of cardio-muscular difficulty are those most in harmony with facts. The only ground for resorting to the neuralgic doctrine advanced by Professor GRAINGER STEWART is that it forms, as it were, a loophole of escape from the difficulty which other theories encounter in the fact that each of the several cardio-vascular conditions described may exist apart from angina. Thus angina pectoris does not occur as a result of the heightened arterial tension of Bright's disease, nor usually from the distension of cavities due to valve defects, notably the mitral valve; whilst cardiac degeneration with or without disease of coronary arteries may most certainly exist, and lead to a fatal issue without ever being characterised by anginal seizures. Obviously there is much to learn yet concerning the nature and immediate causation of angina pectoris, but its association in fatal cases with manifest organic lesion of heart or bloodvessel and, in non-fatal attacks, with clinical evidence of defective circulation and heart enfeeblement, and the rarer event of breast pang—sometimes with fatal result—from sudden and violent exertion, seems to point conclusively to its origin in disordered mechanical conditions of the circulation, with consequent strain on the cardiac power.

Therapeutically, there is general agreement as to the lines to be adopted in dealing with these cases, and the utility of the nitrites is admitted by all as usually affording the most speedy and sure relief from the anginal pain. The prescription of iodide of potassium and of eliminant measures, the due regulation of diet and exercise, proportioned, of course, to the degree of integrity of the heart, were also spoken of with more or less approval and unanimity.

THERE are few more curious or more obscure departments in the wide field of anthropology than the subject of the physical expression of the emotions. Why tears should express grief, laughter joy, a blush shame, pallor fear, are questions which we hardly ask, thinking, very incorrectly, that we have sufficiently explained such facts when we have said that they are "natural." But the further question obviously arises, Why are they natural? Why should an emotion of one kind cause an overflow from the lacrymal gland, while an emotion of another kind causes dilatation of the bloodvessels of the face or a certain definite contraction or relaxation of the facial muscles? Such facts can hardly be regarded as ultimate and final, needing no explanation, and admitting of none. Rather, inasmuch as all analogy teaches us that nothing is arbitrary or purposeless, we are inclined to suspect that there must be some link between an emotion and its physical embodiment, some purposive relation between the outward expression and the inward feeling. And the further we go the more light do we find in tracing such a relation. The labours of Sir CHARLES BELL and CHARLES DARWIN have shed a flood of illumination over this obscure subject, and have not only explained many things which seemed at one time impenetrable mysteries, but have indicated sure and fruitful lines for further advances.

DARWIN has laid down three broad principles under which he believes may be included the explanation of most cases of emotional expression. The first of these is that "certain complex actions are of direct or indirect service under certain states of the mind, in order to relieve or gratify certain sensations, desires, &c.; and whenever the same state of mind is induced, however feebly, there is a tendency through the force of habit and association for the same movements to be performed, though they may not then be of the slightest use. Some actions ordinarily associated through habit with certain states of the mind may be partially repressed through the will, and in such cases the muscles which are least under the control of the will are the most liable still to act, causing movements which we recognise as expressive." Two of the clearest illustrations of this law may be quoted from the lower animals. A horse paws the ground when about to be fed in his stall, an apparently meaningless proceeding. But the explanation in all probability is that the horse learnt to paw the ground as a sign of eagerness to start upon a journey, the pawing being an obvious anticipation of the muscular acts necessary for rapid movement. Hence pawing becomes associated in the equine mind with the idea of eagerness in general, and the act is performed under circumstances in which it serves no purpose. The other instance is from the cat. This animal dislikes having its feet wet, and will shake its paws violently if water be thrown upon them. But if water be poured into a glass close to a cat with the characteristic noise, it will shake its paws, although the act has in this case no meaning or utility. The explanation is that the association in the mind of the cat between the pouring of water and shaking its paws is so strong that the act is instinctively performed even when it serves no purpose. Examples of the same law are found in the case of man. If a person has forgotten a name and is vainly endeavouring to recall it, he frequently looks upward and rolls his eyes about, probably an unconscious effort to increase his field of vision, experience having shown him that in other matters this is one means of discovering some desired information. A young child when enraged shuts its eyes tightly in the act of crying. This is probably to protect the eyeballs against the increased pressure in the bloodvessels, which results from the violent expirations in crying. The same child, if only slightly annoyed, will wrinkle the skin about the eyes, a partial performance of the act performed in violent crying, but under circumstances in which it serves no useful purpose.

DARWIN'S second principle is that of antithesis: "Certain states of the mind lead to certain habitual actions, which are of service according to the first principle. When a directly opposite state of mind is induced, there is a strong and involuntary tendency to the performance of movements of a directly opposite nature, though these are of no use." He gives as an illustration of this law the fawning movements of a dog when caressing his master, which may be explained as the antithesis of the movements of the same dog when approaching another dog in a threatening and

hostile manner. In the latter case back and tail are erect, the body is stiff, and the hairs stand up; while in the former case the movements are supple and flexuous, and the hair is smooth. This principle is a very ingenious one, and would fairly explain the facts, but it does not seem to rest upon the same solid foundation as the former principle. We should be inclined to suspect that the fawning movements of the dog have some purpose and utility *per se* rather than believe that they are a sort of designed antithesis to other movements. This latter idea seems to us too artificial and hardly in accordance with the laws of evolution.

The third principle enunciated by DARWIN is that "when the sensorium is strongly excited, nerve force is generated in excess, and is transmitted in certain definite directions, depending on the connexion of nerve cells and partly on habit. ..... Effects are thus produced which we recognise as expressive." This is undoubtedly a sound principle, of which the illustrations are many. Trembling from fear is a case in point, or the violent action of the heart under any powerful emotion. Neither of these is serviceable—rather the reverse,—and they are most probably explained as the result of the overflow of nervous force along various channels. The effect of fear or joy upon the various secretions is another instance of the same principle. It would seem that if under the influence of a powerful emotion, a large amount of nerve force is generated, it must "find vent" in some outward and physical manifestation, whether tears, cries, laughter, muscular movements, or the like. This principle readily accounts for such facts as "crying for joy," laughing as the result of nervousness or embarrassment, the twitching of the muscles under strong excitement, the passing of large quantities of urine in hysterical attacks, the relaxation of the bowels as the result of terror, and a host of kindred phenomena.

THE acute divisions of the gynæcological world are a subject of anxiety and regret to the rest of the profession. Schism is schism, whether in the Church or in science; and, if anything, it is more unseemly and unpardonable in the region of science than elsewhere. Here we are supposed to be all philosophers, men in humble personal search after truth and wisdom, too painfully conscious of the difficulties of the quest for anyone to be impatient or intolerant of another. Such a rent as we now see in the gynæcological branch of medicine—or shall we say surgery—seems to us schism in the worst form in which it can affect or afflict a profession. In every department of medicine unity and harmony are virtues so essential as to have been insisted on by every authority in the science. It is not always possible for medical men not to differ, but it is always possible for them to agree to differ, and to use all diligence to abate the cleavage of disputes. This mutual attitude of members of the profession who differ is binding, as we have said, in all branches of medicine. But if there be one section of medical work more than another in regard to which it is most binding, it is the gynæcological section, and this for very obvious reasons. It concerns parts deeply situated, of extreme delicacy and interest, and in regard to which diagnosis is obviously difficult. And, finally, the operative proceedings arising out of such diagnosis often are mutilative and defunctionising to an extent comparable to few other operations in surgery. The responsibility of the operator is extreme. The most distinguished gynæcologists differ among themselves as to points that would seem not to be so abstruse. One authority says it is quite easy to define an ovary—another not so. One says serious disease of the appendages is attended with menorrhagia, another with amenorrhœa. One sees danger in flushing the peritoneum, another does it almost daily; one says drainage should be abolished, another that it is most valuable. More than this, the teaching of experts as to errors in the organs of reproduction has undergone a wholesale change within a very few years, and the incidence of blame has been transferred largely from the uterus to its appendages. There is yet no guarantee that we shall not have other equally great changes announced. Our point here is this: if there be all this difference of practice, as we know there is difference of diagnosis and prognosis among gynæcologists themselves, what slight control can the general practitioner have over the fate of a patient supposed to be affected with disease of the appendages? In most other cases his opinion as a man of large experience will enable him powerfully to guide his patient. Here the sufferer is much more dependent upon expert opinion. For all these reasons it is important that those who devote themselves to this branch of the healing art should be controlled by the strictest ethical traditions of the profession. They should be extremely reluctant to remove parts which they cannot restore, or to act without giving most respectful and careful consideration to the opinion of those who hold different views from theirs, either as to the possibilities of medical cure, or the right of the profession to remove organs whose function is only less precious than life itself, and in the absence of which the whole outlook of life is changed. We shall be told here that it is no worse for the operator to remove appendages than for nature to disorganise them. The case is very different, and nature can bear a much heavier responsibility than any poor human being. Besides, is it not true that many of these cases undergo remarkable changes within a reasonable time? and is it not often the case that women for years sterile lose their sterility and become the happy mothers of children? For all these reasons we hold that at this juncture in gynæcology it is the duty of experts themselves and of their colleagues to surround these operations with precautions and hindrances over and above those of other operations. The exact nature of these need not be defined, but they should include due consultations concerning any projected operation, a full statement of the history of the case and the diagnosis of each case before operation, an exhaustive pathological report by the pathologist of the particular hospital of every specimen removed, and an equally careful report of the progress of the case immediately afterwards, and for as long a time as it can possibly be traced.

We are not unmindful of the easy-going conservatism of older minds, which are apt to lose faith in the progress of our art, especially when their own fame and ease are assured. This conservatism has to be fought against, and we are prepared to fight against it, and to join all careful workers who advance the medical art on sound lines. What is more, we are prepared to believe that in this very

controversy this conservative spirit does count for something. But we believe that it does not count for much, and for the following reasons. First, the natural objections to the operation under discussion are strong enough to explain the antipathy that exists in most minds to them. Secondly, many of the chief objectors are young men who have a keen love of surgical procedure when entirely justifiable. Thirdly, mere blind conservatism and satisfaction with the actual are not the force now that they were, say, in the days when ovariotomy first came to be practised. Great revolutions in surgery have happened since then. The greatest revolution of all is in the growing conservatism of surgery itself, that spares so much that it used to sweep away, and saves what it used to amputate. We take up no extreme position. We admit that there are cases which justify the mutilation in question. But we submit that the whole effort of gynæcologists and of the profession should be to reduce them to a minimum, and that these operations should not be undertaken without such precautions as we have indicated.

Annotations.

"Ne quid nimis."

THE CERTIFICATION OF FITNESS FOR CHILD LABOUR.

IT is only uttering a truism to say that fitness alone can qualify for work, yet this very obvious truth appears to be doubted by the authorities concerned in the regulation of child labour. Up till the present time the employment of children under the Factory and Workshop Act has been subject to their certification in respect of sufficient school education, age, and physical fitness. It has recently been proposed to reduce even the modest compass of this inquiry. This will be accomplished by limiting it to the two conditions first mentioned, the mutual interest of parent and employer being relied upon to protect a weak or unhealthy child against the consequences of overpressure. Experience, we fear, will not justify this reliance. The evident assumption is, nevertheless, that the child in his teens must be able to work, and no longer requires to be certified or inspected. He will do for what he has to do. This argument, however, though plausible in its general aspect, does not adapt itself to the case before us. It must be remembered that the whole structure of State regulation as applied to labour is founded on the necessity of maintaining due adaptation between the worker and his work. Fitness is its very key-note. Whatever is omitted, therefore, we cannot agree that official supervision with regard to this primary consideration can be dispensed with, but would rather witness its closer application. As matters now stand, indeed, cases might be quoted which will amply suffice to prove that many parents are quite unable to gauge the working power of their children, and that a real necessity exists for the services of the certifying surgeon.

Messrs. Rickards, Hall, Nunneley, and Wright, the certifying surgeons under the Factory Acts of the Leeds district, have set an example which may well be followed by the factory surgeons of other districts. After intimating that if time be given them they will be able to tabulate the number of rejections they have felt it their duty to make, they mention various cases in which they pass persons with qualifications, or stop them in some trades, as the flax and ready-made clothing, for short periods to clear them of itch, ringworm, sore eyes, &c. For this work the public, if not the employers, ought to be thankful to them. They stop convalescents from scarlet fever and other infectious diseases from returning prematurely to work. Among recent cases they specify the following, which ought to open the eyes of the Government. Six cases of syphilitic sores of the mouth have been detected in glass blowers. Men and boys alternately use the same blowpipe. A case of scarlet fever fully developed has been prevented working amongst a large number of women and children. A convalescent from small-pox still infective. A girl who had previously lost one eye has been prevented working among dust. Her other eye was found unhealthy by the surgeons, not by her friends or the foreman. A girl in an early stage of consumption has been prevented working in a dusty flax mill. Two epileptics have been prevented working among machinery, in spite of the urgent solicitations of the parents and foreman. It is by such instances as these rather than by great array of figures that the function and uses of the factory surgeons are to be demonstrated. The time between now and Easter should be used to accumulate such information for the benefit of the committee to which the Factory and Workshop Bill has been referred.

THE COLD BATH TREATMENT IN TYPHOID FEVER.

MR. F. F. HARE, M.B., resident medical officer of Brisbane Hospital, Queensland, contributes to the *Practitioner* (March) a very well ordered study of the effects of cold baths in the treatment of typhoid fever. The number of cases dealt with is surprisingly large, and affords every opportunity for arriving at reliable statistical results. Thus a contrast is made between the cases treated during the sixteen months, August 1st, 1888, to Dec. 31st, 1886, on the "expectant plan," and those from Jan. 1st, 1887, to Dec. 31st, 1889, when the bath treatment was thoroughly carried out according to Brand's directions. The gross result was an improvement in mortality amounting nearly to 50 per cent. Thus on the expectant plan there were treated 586 cases, deaths 85, mortality 14·50; under the bath treatment 1173 cases, deaths 92, mortality 7·84. Dr. Hare points out certain fallacies which are likely to arise in every such inquiry, particularly those due to a too liberal extension of the term "typhoid," and those to the varying severity of the disease at different periods; and then discusses the special value of the treatment, the success of which is proportionate to its commencement early in the disease. He shows that the liability to intestinal perforation and hæmorrhage is unaffected, so that no reduction in the general mortality below 5 per cent. (the rate due to these accidents) can be expected. The greater liability of males to these complications gives a vastly better prognosis under the bath treatment to female cases; but at the same time he points out that in moderating the diarrhœa and in sustaining the vital powers the patient is better enabled to resist the effects of hæmorrhage and "other not necessarily fatal intestinal conditions." Lastly, he reaffirms the position assumed by former advocates of the measure as to its chief effect in reducing mortality, for he says: "The vast bulk of the reduction in mortality is due to the prevention of those complications and modes of death which, being more or less common to the febrile state, however induced, have been termed pyrexial. Thus (*a*) fatal pneumonia has been less than one-fourth as frequent, this being chiefly due to the rarity of the bronchial form; (*b*) brain complications have been less fatal and brain symptoms (delirium, stupor, &c.) enormously reduced in frequency; while (*c*) it is no exaggeration to say that simple cardiac failure would have been practically expunged from the list had all the cases admitted come under treatment during the first week of the disease."

THE CIRCULATION OF THE BLOOD IN THE BRAIN.

DR. B. LEVY has published in *Virchow's Archiv* an extensive series of careful mathematical researches, the result of which entirely contradicts that previously obtained by Geigel, who contended that constriction of the arteries produces an increased blood-supply, and that their dilatation causes the supply to decrease. Dr. Levy insists that physiological supply of blood to the brain is regulated in the same way as in all other organs—that is, the dilatation of arteries produces an increase, and their constriction a decrease, in the current of blood. Venous congestion leads to arterial anæmia. Acute compression of the brain, caused, for instance, by a foreign body penetrating the skull, causes arterial anæmia. Dilatation of arteries beyond certain limits—caused, for instance, by inflammation—produces arterial anæmia. Extensive depletion of the capillaries leads to a perversion of the blood-supply; so that dilatation of the arteries then produces anæmia, while contraction leads to hyperæmia. The supply is consequently not influenced physiologically by the fact of the enclosure of the brain in a firm unyielding case. The opening of the cranium likewise does not alter the supply.

THE LINCOLN WATER-SUPPLY.

THE attitude of the Lincoln Corporation towards the subject of their water-supply must be judged of from two points of view. The first is that of widespread publicity such as is involved in a letter which has been carefully drafted in committee, and which is to be sent to the Local Government Board. This letter practically says that the diarrhœa complained of in the city cannot be proved to have been caused by the water-supply; that all the water does not come from the river Witham; that the sewage effluent received into this river does not affect the water to an extent that would secure its condemnation by the chemist; that even if the complaint were just the circumstances of the past season were exceptional; that the power of the central authority to compel the city to get a supply from other and less suspicious sources is limited by certain statutory restrictions; but that, notwithstanding all this, a special committee shall inquire further into the matter. It is, we fear, not difficult to read between the lines of this letter. It practically means that the majority of the committee prefer running a risk such as that involved in the meteorological conditions of the past season, to spending money on providing a supply that shall not, in part, consist of sewage effluent, which on occasion has been found to be chemically altered before consumption. But the debate which followed, and which will not accompany the official document, opens up another phase of the question. The want of unanimity in the compilation of the letter became evident, one councillor stating that he had opposed it in committee, and that he still objected to it. Another said that although no "very disastrous results" had ensued from the use of the water, they ought to have a "purer" supply; and Dr. Lowe, who in his speech evinced the utmost desire to save Lincoln from the effect of any exaggeration of the facts, could do little more than explain that so far as mere results, as shown by actual death-rates, were concerned, the habit of using a water "drawn from a source which might at any time become dangerous" had not yet done the mischief which such supplies have often done before and such as has recently been done so disastrously in the valley of the Tees. It is admitted that owing to the attitude of THE LANCET, amongst other papers, Lincoln stands medically condemned. It can only remain so until its water-supply is such as to make it impossible for any medical man to refer to this necessary of life and health in terms so significant of risk and of danger as those which are embodied in the sentence which, according to the local press, emanated the other day from one of Lincoln's town councillors, who spoke with the authority of one who has had medical training and experience.

THE EPSOM COLLEGE NATURAL HISTORY SOCIETY.

AN interesting appanage to the Epsom College is the Natural History Society, the report of which for 1890 is now before us. Under the fostering care of Mr. J. S. Jackson, the President, in conjunction with the Head Master of the school and other gentlemen, the Society has acquired a very useful position, and must prove a valuable adjunct to the educational advantages of the College. The report contains epitomes of instructive lectures on various topics germane to the scope of the Society, such as one on Luminous Animals, by Mr. F. A. Heron; another on the Identification of Birds, by Mr. Macpherson; and a third on the Flight of a Bird, by Mr. W. Hubert; whilst Sir E. H. Sieveking has contributed a paper on Epsom Salts, in which paper, after premising that "Epsom" is a Cockney corruption of "St. Ebbisham," he pleasantly recalls the history of the place with its famous sulphate of magnesia well. A summary of meteorological observations during the past year concludes a report which is as satisfactory in its contents as it is indicative of the healthy activity of the College.

HEAT CENTRES IN THE NERVOUS SYSTEM.

AT a meeting of the Cambridge Philosophical Society, on Monday the 9th inst., Dr. J. G. Adami read a preliminary communication upon certain points in regard to the functions of the cerebral heat centres. After indicating how uncertain is our knowledge concerning not only the position and exact nature, but also the very existence of, definite cerebral heat-regulating or heat-producing centres, he described certain experiments made by him in M. Metschnikoff's laboratory at the Institut Pasteur, Paris, to determine whether substances inducing typical fever in the intact animal lead to any rise of temperature when injected into the animal deprived of its hemispheres. Employing for this purpose the hen, he found that for the first few days after the removal of the cerebrum, when evidently the shock caused to the system is still persisting, the temperature-regulating mechanism is thoroughly disorganised. Place the hen in a chamber warmed to 22° C. (71·8° F.) and the rectal temperature rapidly rises in the course of a few hours to, it may be, several degrees above the normal; remove it to a room at 16° to 18° C. (60–65° F.), and for some hours the temperature as rapidly falls, though there is a tendency for it to eventually rise again. No corresponding temperature changes, it is needless to say, occur in normal hens when exposed to such slight variations of external warmth. Give the animal 15 ccm. (two drachms) of cold water by the mouth and the temperature as measured in the rectum falls through 1° F. or more in the course of forty minutes. Again, feeding with warmed egg—a rich proteid diet—induced a rapid rise of body temperature. The temperature being so liable to variation it was difficult to determine the suitable moment at which to inject substances which, in the ordinary hen, cause a transient experimental fever—as, for example, sterilised cultures of the vibrio Metschnikovi. Yet Dr. Adami managed to gain clear indications that these substances, when injected under proper conditions into the hen deprived of its hemispheres, do lead to a marked rise of temperature—a rise of as much as 2° C. (3·6° F.) in the course of six hours, continuing afterwards at a slower rate for some considerable period. Whether such rise is

truly febrile or not (which can only be determined rightly by calorimetric observations), and whether it can be produced in fowls minus their hemispheres at a later period, when the system is in a more stable condition, are matters which have yet to be investigated, and which Dr. Adami hopes to determine in due time. In the discussion which followed Sir George Humphry, Professor Roy, and Dr. Lea took part.

THE VOLUNTEER MEDICAL STAFF.

IT is only natural that a feeling of disappointment should possess the members of the Volunteer Medical Staff Corps, who have this year been excluded by an order from the War Office from their usual share in the Easter manœuvres. The reason assigned—namely, that it is desirable to test by actual practice in the field the efficiency of the trained men ordinarily included in the brigades—carries at best a sort of unsatisfactory conviction. It is doubtless well that the field ambulance men should have their due share of practical training, but need this imply the enforced idleness of the Staff Corps? For the purpose of training, which, we take it, is the primary object of manœuvres, the attachment of a few additional members to the strict numerical strength of the regiments engaged could not fail to promote the efficiency of all concerned in rendering aid to the wounded. If, on the other hand, the field operations are intended to gauge the proficiency attained by the ambulance men when thrown on their own resources, what are we to understand as the function allotted by authority to the medical staff in a general mobilisation? Are the latter intended as reserves for the field service? Then in that case they should surely be afforded an opportunity of seeing actual field work with a force, and arrangements might have been made to provide the required hospital accommodation. An omission of this kind is a conspicuous want in the system of training by means of manœuvres, and, in our opinion, the War Office would do well to reconsider the matter.

THE SEWAGE OF GUILDFORD.

THE urban sanitary authority of Guildford have taken a substantial step in a direction that has long been needed, both in the interests of the town and of those who dwell on the river Wey. They have unanimously passed a resolution to purchase from the Earl of Onslow a definite plot of land for the purposes of dealing with their sewage. As yet they do not tie themselves to any special process of dealing with the contents of the sewers when they reach the site in question, but it is understood that the scheme will involve some chemical process.

THE GENERAL MEDICAL COUNCIL.

THE minutes of the recent meeting of the Executive Committee of the Medical Council contain references to several subjects which must shortly engage the attention of the Council itself, and which meantime have interest for the profession. A severe rebuke on the subject of defective preliminary education comes from an unexpected quarter. The Secretary of War intimates to the Council that he has had before him a report from the Director-General of the Medical Staff on the "manifest deficiency in orthography prevalent amongst the young medical officers of the army." This fault has of late so obtruded itself on the notice of the military medical authorities that a special clause has been introduced into the regulations for admission to the Army Medical Staff, to the effect that the Secretary of State reserves to himself the power of making bad spelling a cause of rejection. The defect in question has long been recognised by the Medical Council. It is often very apparent in the examination papers. But it must now be brought home to the bodies whose carelessness in the preliminary examinations allows of this scandal.

The Local Government Boards of England and Ireland and the Board of Supervision in Scotland have given very favourable replies to letters from the late President of the Medical Council, seeking to gain permission for the sanitary officers under their control to give instruction in the practical details of sanitary work. The Registrar laid on the table stitched copies of the Medical Register, the Dentists' Register, and the Medical Students' Register, which, he stated, he had got into type much sooner than had ever before been accomplished. We defer, however, any notice of these works until they are completed.

THE PORT OF LONDON.

IN the report on the Port Sanitary District of London for the second half of 1890 we learn that 7914 vessels were inspected, and that, amongst other results which were brought about, 103 structural alterations were effected, besides 84 which were not completed and approved at the date of the report. The admissions into the Port Hospital for Infectious Diseases were 22 in number; and the system of compulsory notification of disease which is carried out led to the adoption of numerous precautionary measures which benefited the port, the crews, and other persons afloat, and also the population of the metropolis, which would otherwise have been largely at the mercy of imported infection. In short, the sanitary administration of the Port of London, which is carried out under the immediate supervision of Dr. Collingridge, is steadily effecting improvements which are far-reaching in their influence. As to the Thames, Dr. Collingridge has nothing good to say. If the attempts to deal with a portion of the huge mass of sewage coming from the metropolis have been of any benefit, such benefit is counterbalanced by the increasing flow of sewage which goes on year by year; and the sewage is reported to be, for any practical purposes, unaffected by the chemical processes carried out. In dealing with the canal boats, Dr. Collingridge points out the measures taken to effect the improvements permissible under statute, but he still maintains that such craft cannot possibly, by reason of the size of the cabins, ever be made fit places for young women and children to live in.

SYRINGOMYELIA.

IN a recent number of the *Progrès Médical* there is reproduced a lecture by Charcot on this obscure and interesting condition. This lecture, however, has more than a passing interest, for it directs attention to a series of signs and symptoms not formerly described, so far as we are aware, in association with the condition known as syringomyelia. The patient who was the subject of the lecture was first seen in 1875. He was at this time twenty-five years of age, an officer, presenting weakness of the whole of the left side of the body. The leg was much weaker than the arm, there was marked rigidity, difficulty in directing the foot in a given direction, and a great tendency to inversion of the foot. The knee-jerk was exaggerated, and the whole condition, Charcot says, was suggestive of infantile hemiplegia, with a certain amount of athetosis. In the previous history of the patient there was nothing to throw any light on the present state. He had always been strong, and came of a healthy stock. He was very fond of horses, and had had several accidents in connexion with them, but apparently nothing of any moment. He had first noticed slight weakness of the left side when he was of the age of ten, but this had not been marked; and although it had increased, it was not sufficient to prevent him from serving with his regiment in the Franco-Prussian War. While on service, however, he had one day

great weakness of the left side of the body, and although this passed off to a great extent in the course of the day the weakness had again increased until he came under observation in 1875. He was not seen again until last year, and during the fifteen years that had elapsed considerable changes had taken place. He now had a well-established condition of left hemiplegia with rigidity and contracture, greater in the leg than in the arm, exaggerated reflexes, and naturally almost complete loss of power in both leg and arm. The limbs on the right side were quite normal. There was no muscular atrophy, but there was almost complete loss on the left side of the sense of temperature, and much impaired sensibility to painful impressions. There was also a peculiar condition of the left hand. It was broad and clumsy-looking, there was enlargement of the finger-joints, and the hand, in short, closely resembled that of a patient suffering from acromegaly. There was also some trophic change in the cicatrices in the lumbar region where the cautery had been applied in 1884 or 1885, and it is noteworthy that this application had been unaccompanied by anything more than very slight pain. It is evident that this case presents many points of difference from what is regarded as the type of syringomyelia. In the latter, while the impairment of temperature sensibility and of sensibility to pain are present, they are usually accompanied by muscular atrophy. In this case the absence of this cardinal sign is noteworthy, and so is the one-sidedness of the lesion. Of course, there is no absolute proof that the diagnosis is correct, but if the further progress of the case should confirm it a good deal of light will probably be thrown on the considerable class of cases of lateral sclerosis of slow and gradual onset; for the patient under consideration, when seen fifteen years ago, showed nothing more than well-marked symptoms of such a condition. As the changes in sensibility and in the trophic functions are, however, the only signs which are relied upon for the diagnosis, it is evident that in the present state of our knowledge of the tract by which such impressions are conveyed an absolute conclusion can scarcely be arrived at.

THE MEDICAL SERVICES.

AMONG the latest items of intelligence from India we are not surprised to learn, according to *The Times'* correspondent that the medical officers in India are not at all satisfied with Mr. Stanhope's concessions, which they regard as valueless. A feeling of disappointment and irritation, it is alleged, pervades both the British and Indian medical services, and it is understood that a defence fund is to be raised in order to promulgate and support the views entertained by the medical officers on this subject.

DAMAGES AGAINST PRINCIPAL AND ASSISTANT.

AT the Manchester Assizes a very painful case was tried in an action for damages by Mr. Moses Brierley for the death of his daughter, caused by her taking prussic acid, which had been given her negligently and in mistake for medicine by Mr. Myles, the assistant of Dr. Clegg. Dr. Clegg was called to see the deceased and used the stomach pump, but without avail. The lamentable mistake happened in the most casual way. The deceased was barmaid at an hotel where Mr. Myles called for refreshment. But finding the barmaid ill, Mr. Myles volunteered to fetch some medicine for her. He made some up at the surgery, and at the same time filled a bottle with prussic acid for use at another branch. He left the wrong bottle with Miss Brierley, without any label on it. Before he had time to correct the mistake she had taken the dose he had instructed her to take, with of course a rapidly fatal result. The father claimed damages for the loss of her services. The jury awarded him £100—£75 against Dr. Clegg, whose assistant Mr. Myles was, and £25 against Mr. Myles. The judge had laid down that Dr. Clegg was liable for the acts of his assistant. We deeply lament the accident, and, with all respect to the judge, venture to doubt the absolute accuracy of his ruling. It is a striking proof of respect for Mr. Myles that in connexion with this incident he was presented by the inhabitants with a sum of thirty guineas.

THE PHONOGRAPH IN MEDICINE.

THE applicability of the phonograph to the record and demonstration of defects in speech has been well illustrated during the past week at the Royal Medical and Chirurgical Society and at the Hunterian Society. At the first-named Dr. Hale White and Mr. Golding-Bird were enabled by means of this instrument to allow the Fellows present to hear the curiously defective speech of two children, and to contrast this with the improvement effected by treatment, for the subjects were present, and after the phonograph had given their past utterances, their present speech was demonstrated *vivâ voce*. The papers read by the above gentlemen and that by Dr. F. Taylor led to an instructive debate, which was further illustrated by some marked cases introduced by Dr Hadden. The outcome seemed to be that these defects in articulation are probably of central origin, and not due to any mechanical interference with the organs of speech. Whether, as suggested by Dr. Langdon Down and Mr. Spencer Watson, the defect was primarily one of audition is a question certainly worthy of consideration. Another point raised was whether the defect should be considered one of speech or language, and some exception was taken by Drs. Taylor, Pye-Smith, and others, to the use of the term "idioglossia," which, however, was ably defended by Dr. Hale White. The other phonographic demonstration at the Hunterian Society was by Dr. Hughlings Jackson, who thus reproduced the characteristic speech of a subject of cerebro-spinal sclerosis. There can be little question that the phonograph will ultimately prove very useful, especially in the preservation of certain anomalies of articulation, and its further extension to other sound phenomena in the range of clinical medicine may be justifiably hoped for.

HEMIOPIC HALLUCINATIONS.

IT is several months since Dr. Peterson of New York published a case of delusional insanity in which the visual hallucinations always appeared in the right fields of vision, and in a recent number of the *New York Medical Journal* he takes occasion to refer to the occurrence of this condition in association with symptoms other than those of mental disturbance. Although in the case which Dr. Peterson published hæmianopsia was not present, it is only natural that the two conditions should as a rule be associated. Thus in Dr. Seguin's case, that of a woman who after the birth of a child experienced a sudden "snap" in the left temple, and who subsequently had right hæmianopsia, there were at first in the blind fields visual images of a few simple objects, such as a chair, a chicken, &c. In another case, which appears for the first time in the paper under notice, a woman soon after the birth of a child experienced pain in the head and began to have trouble with her vision, everything appearing blurred and indistinct. When this had lasted some time she observed that to the left of the middle line all was dark, and a month after she noticed that visual images appeared in the blind region. The images were those of cats and dogs and

children, who arranged themselves in rows and formed processions, the children moving in circles, the animals remaining still. This continued, except of course during sleep, for four weeks, the vividness of the scenes and the distinctness of the images being increased by fatigue and during attacks of headache. Reference is also made to the occurrence of similar phenomena in epilepsy and migraine; and, in conclusion, four cases of hemiplegia with hemianopsia, in which visual images appeared in the blind fields, are quoted from the recent work of Henschen. In two of those cases there were necropsies, and although in both there was found a diseased condition of the occipital lobe, other lesions were present. In his remarks on the cases Dr. Peterson offers the explanation that those hemiopic hallucinations are the result of irritation of the cortex, such irritation in organic disease being produced at the seat of the lesion, while in a disorder like migraine vascular spasm and consequent anæmia are regarded as the cause of the irritation. To explain the occurrence of the phenomena in his case of delusional insanity, Dr. Peterson supposes that some mild nutritive disturbance of the occipital cortex took place—a disturbance similar to what may account for the hallucinations of ordinary delirium, not widespread as in the latter condition, but limited to one part of the cortex.

THE NOTIFICATION OF MEASLES.

THE health officer for Newcastle-upon-Tyne has brought under the notice of his town council the subject of the notification of measles, with a view to the prevention of this disease, and at their request he has sought information on the subject from a number of other boroughs. We cannot say that the main body of this information is particularly helpful, for it amounts to but little more than statements from towns where the system has not been tried, and where, in consequence, no experience on the subject was available. There seems, however, a pretty general consensus of opinion that school attendance diffuses the disease on a wide scale, and that, in order to prevent this, children who come from infected houses must be kept away from school. It is difficult to see how such a scheme can be successful unless notification is carried out, for it is, above all, the early attacks that it is so needful to control, school closing at the height of an epidemic being a much more clumsy and doubtful remedy. Seven large towns with no notification of measles are dissatisfied with their existing method of dealing with the disease, and although there is no such expression of dissatisfaction from towns where notification is carried on, yet the information supplied rather tends, by reason of its paucity, to imply that systematic effort to deal with the information when it is acquired is by no means so general as it should be. On the whole, we think that a good case is made out by Mr. Armstrong for notification of measles, but if it is adopted it should be put to a thorough test by the strict application of exclusion from school of all children having any signs of measles or coming from infected houses, and this should be maintained for a sufficient period of time to enable a proper judgment of its value to be come to. Where this is not intended it will probably be of little use to adopt the system, and the difficulties attendant on the needed organisation have probably induced a number of health officers to say that they hardly advocate the system at the present moment. A very common reason alleged against it is the expense that would be involved. As to this, we would observe that expenditure incurred in the prevention of infectious disease is by no means an altogether unremunerative one, and it must also be remembered that the annual average of some 13,000 deaths from measles in this country, besides involving a great waste of human life, must also necessitate a great and a useless expenditure. When this number is multiplied by ten, so as to give a total of 130,000 cases—which is probably a low estimate—the waste of money in connexion with a preventable sickness is seen to be enormous.

MEDICAL SOCIETY OF LONDON.

THE annual dinner of this Society, which took place at the Whitehall Rooms of the Hôtel Métropôle on Saturday last, was certainly the most successful in its annals. The Fellows of the Society and their guests were present to the number of over 150, a pleasing innovation being introduced, that of inviting as guests distinguished members of professions other than the medical. Mr. Knowsley Thornton occupied the chair, and amongst those present were Sir James Paget, Sir George Humphry, Sir Andrew Clark, Sir William Savory, Sir Joseph Lister, Sir William Roberts, Sir Joseph Fayrer, Sir J. Crichton Browne, Sir Dyce Duckworth, Dr. Douglas Powell, the President-elect, and the Presidents of the sister societies. Sir H. Selwyn-Ibbetson, M.P., Sir John Bridge, the Master of the Merchant Taylors' Company, Mr. H. A. Giffard, Q.C., and Colonel Melville, R.E., were also present. In proposing the Medical Society of London, the President made feeling allusion to the loss the Society was sustaining in the retirement through ill-health of the registrar, Mr. Poole, who had performed his duties most ably for a great many years. A long toast list was successfully disposed of, many of the speeches being of a high order of merit, and an excellent musical programme, arranged by Dr. Charles Beevor and Dr. Charles Sheppard, added greatly to the enjoyment of those present.

THE CANTHARIDIN TREATMENT OF TUBERCULOSIS.

AT the meeting of the Berlin Medical Society on the 4th inst. some members related their experiences with Professor Liebreich's new remedy for tuberculosis, the cantharidinate of potash; and one cannot fail to be struck not only by the caution displayed by the speakers, but by the manifestly slighter disturbance produced by this remedy as compared with Koch's tuberculin. Dr. Saalfeld showed the case of a child with lupus of the cheek; there had been five injections, commencing with half a decimilligramme, and the only effect so far had been some flattening of the elevations, some shrinking of the affected area, and a paler colour. Dr. Landgraf gave his experience of the remedy in laryngeal cases, and summed up his results in the declaration that the remedy in repeated doses produces œdema of the mucous membrane when this is chronically inflamed; that even small doses cause increased expectoration, and that the signs of œdema rapidly disappear. His evidence confirms Professor Liebreich's statement that the action of the drug is to promote exudation of serum from bloodvessels, but Dr. Landgraf considered that the curative effect of this was still an open question. Dr. Lublinski, who had injected sixteen cases, alluded to the fact that there was some pain excited by the method, and he had seen headache, diarrhœa, strangury, and slight hæmoptysis follow it, although he had never exceeded two decimilligrammes. He, too, had noted increased expectoration in laryngeal and pulmonary cases, and had seen ulcers in the larynx rapidly heal, and a diminution take place in the size of lupus patches. Dr. B. Fraenkel had noted improvement in cough and diminution of râles in a case of pulmonary phthisis, and in two others a notable subsidence of the hectic fever. He had met with strangury and albuminuria as a consequence of the treatment, which, in view of the renal troubles, he urged should be employed with the greatest caution. Professor Liebreich referred to a case of lupus which was

showing marked improvement, and dwelt upon the fact that no rise of temperature is caused by the injections. As to the cantharidinate being a specific, he said that it was so in the sense of its acting upon the *locus affectus*, but not in the sense of its powers being limited to one special form of disease; and he hinted that "serum therapeutics" might be found applicable to many other diseases besides tuberculosis.

ENGLISH MEDICAL PRACTICE IN PARIS.

THE editor of the Anglo-American "Annual" (248, Rue de Rivoli, Paris) writes us to say that the "Annual" contains a list, supplied by Dr Bull, the hon. secretary of the Continental Anglo-American Society, of all the English and American practitioners. The "Annual" has been sent gratis to all the principal hotels of the city. The list, revised and corrected, may be seen on page 65 of the "Annual." It is a matter of importance that, if such a list must be published, it should be as destitute of mere advertising qualities as possible. The bare name, qualifications, and address should be given, without pretences of specialism. We think the diplomas and their sources should be stated. We regret that such an expedient should be called for, but the recent revelations as to the interested and haphazard way in which Anglo-Americans are informed as to available medical help renders this course almost justifiable. We should advise all our compatriots to seek disinterested advice in the selection of a medical man from responsible and respectable residents. But failing this, and in emergencies, the list given in the "Annual" should be asked for and consulted.

"A NEW DANGER TO LONDON."

UNDER the above heading we have recently published a letter protesting against the creation of a depôt for dust-bin and other refuse on the ground left vacant by the demolition of Millbank Prison. Further correspondence on this subject has now reached us, which, however, is too voluminous to publish. One correspondent, we are pleased to note, withdraws the title of a "new" danger to London. The danger, in point of fact, is about as old as vestrydom. In the autumn of 1883 we published a Special Commission Report on the Dustyards of London, and therein denounced grievances even worse than that which now seems to alarm some inhabitants of the Pimlico district. Not far off, on the other side of the river, there are huge refuse deposits close by filtering beds of the Southwark and Lambeth water-supply. The dust blowing over into the drinking water-supply is a more serious danger than anything our correspondent mentioned. Also the positions occupied by many dustyards in various parts of the metropolis are worse and more dangerous than the site of Millbank Prison. Indeed, this new site is likely to prove less objectionable than the wharf formerly used by the same sanitary authorities, and which is situated within a stone's throw of the Houses of Parliament, and is surrounded by a dense population of very poor people. Such causes of insalubrity are likely to prove more mischievous in very poor and crowded districts than in the broader and comparatively well-to-do streets such as are to be found near the site of Millbank Prison. We do not by this mean that our correspondent has no cause of complaint. The pity of it is that his grievance, though quite genuine, is apparently not so great as that which previously existed. This brings us to the conclusion we have so often urged before—namely, that there should be no dustyards whatsoever in any part of the metropolis. Dust sorting and sifting is an unwholesome industry, and as such should be classified and not tolerated in any great city. By water or by rail the refuse can be sent off to a safe distance, or there are destructors by which it can be burnt on the spot and thus rendered innocuous. To wage war against one particular dustyard can only result in transferring a danger from one district to another, and we should not care to assume the responsibility of deciding which neighbourhood is best able to bear such a cause of contamination. We aim at a higher purpose—that of altogether removing the danger, not from one district, but from the entire metropolis and from all large towns.

INTUBATION AT ZURICH.

AT a meeting of the Medico-Chirurgical Society of Zurich, on the 31st ult., Dr. W. von Muralt, consulting surgeon to the Children's Hospital, read an interesting paper on Intubation. A demonstration of O'Dwyer's case of instruments was followed by a short historical account of the development of this system of treatment of acute laryngeal stenosis, and the results obtained in various hospitals on the Continent and in America were mentioned. He said that it was not without some apprehension that in February, 1888, he had introduced intubation at the Children's Hospital in lieu of tracheotomy, but he was glad to be able to report that his fears had not been realised. It had now been tried in a series of 56 cases, and 21 of the patients, or 37½ per cent., had recovered. In 18 of the above cases intubation failed to afford any relief, and was followed by tracheotomy; only one of the cases recovered. He had means of a fair comparison of the results obtained by tracheotomy and intubation, both being performed at the same hospital by the same operator and on the same principle. From 1874 to 1888 there had been 318 tracheotomies performed at the Children's Hospital, and 113 patients, or 35½ per cent., recovered. Dr. von Muralt also treated a few cases of chronic laryngeal stenosis with success. In the ensuing discussion, Professor Krönlein said that although in some suitable cases he had had recourse to intubation, he still considered tracheotomy the sovereign method, and did not think it would be superseded by intubation. His operative results were relatively favourable, there being about 40 per cent. of recoveries in the last 300 or 400 cases of tracheotomy performed *ex indicatione vitali*. He had been rather discouraged by unfavourable results of intubation reported from surgical departments of German hospitals, and mentioned that some of the statistics collected from dozens of different hospitals in different countries were inaccurate, and had not the same value in his eyes as those cases which had been reported by Dr. von Muralt.

THE TREATMENT OF UNCONVICTED PRISONERS.

THE English law holds that, however strong the evidence may be against him, a man must be considered as innocent till such time as the verdict and sentence are pronounced. This being the case, it is surprising that better care is not taken to provide suitable accommodation for unconvicted persons awaiting their trial. The rough treatment of prisoners in police cells is a constant subject of complaint, while the cells under the Central Criminal Court, which have just been officially visited by Mr. Justice Grantham and Mr. Sheriff Harris, consist of solitary boxes about 7 ft. high and 4 ft. square, with only a little hole to admit fresh air. So impressed were both judge and sheriff that they have brought the matter to the notice of the Lord Mayor, and the Court of Aldermen discussed the subject. Surely Newgate is large enough to supply convenient rooms for prisoners awaiting their trial. With the telephone at hand there is no need to keep the prisoners cooped up just under or close to the court. They can be brought from the prison cells rapidly enough for all practical purposes. It is not fair, it is not humane, to torture a prisoner just before his trial by such close and cruel con-

finement. At such a moment the prisoner should be spared from all disturbing influences, so that he may collect his thoughts and be in a frame of mind to make the best defence possible. But if the prisoner is to be subjected to prolonged suspense and confinement, not in a cell, but in a sort of box, it can scarcely be said that he has a fair trial. Nor does an unconvicted prisoner deserve such treatment. We are glad, therefore, to note that this grievance has attracted the attention of the Court of Aldermen, and that they have summoned the governor of Newgate and the chairman of the City Lands Committee to attend their next meeting, to discuss the matter. Much has been said of late in the lay press concerning the barbarous treatment of prisoners in Russia; perhaps it would be well if we put our own house in a little better order.

EXPERIMENTS ON THE ORIGIN OF PERISTALTIC MOVEMENTS OF THE INTESTINES.

DR. C. LUDERITZ publishes in *Virchow's Archiv* the result of experiments on rabbits, to elucidate the nature of those spontaneous movements of the intestines which carry their contents downwards, and to decide if there is also a contraction of the annular muscles, which, though tending downwards, does not depend on the intestinal contents, but is entirely automatic. The author finds that the excito-motor nerve apparatus, situated in the intestinal wall, whenever acted on by any kind of exciting cause, is affected not merely in the place directly acted upon, but, according to the intensity of the exciting cause and the existing irritability, also in a more or less extended sphere between the original seat of stimulus and the pylorus. This tendency of the stimulus to travel upwards can be plainly observed only with exciting causes, which lead to a contraction of the annular muscles. The nerve apparatus experiences is affected by irritation, like the grey substance of brain and medulla, the excitation gradually accumulating until it produces muscular contraction. A nerve-exciting cause, applied to a circumscribed spot of the intestine, leads consequently, if sufficiently strong, to contraction of the canal for some distance towards the pylorus. When, however, the exciting cause acts upon a larger portion of the nerve apparatus and in the whole circumference of the intestinal canal, as in congestion of a segment, the sum of the exciting causes becomes greater at the proximal end of the segment, and contraction of the annular muscles begins here, and takes a downward peristaltic direction. This drives the contents of the intestines to the lower end of the segment. The peristaltic movements are visible in the full intestinal coils, not in those which are empty. The author accepts the conclusion Nothnagel arrived at from his experiments in reference to antiperistaltic movements as correct.

DANGERS OF DOMESTIC REMEDIES.

POPULAR delusions, although frequently possessing farcical characteristics, mostly end in producing disastrous results. The craze for economy is widespread, and perhaps inevitable when the income is small and expenses are great. The general practitioner protests against the prescribing chemist, and the chemist in turn is never-ending in his denunciations of "stores." According to their means and opportunities, members of the public glide down the scale from the top to the bottom, ever seeking a cheaper market. Necessarily a certain amount of danger attends the downward path, but the danger is greatest when the individual essays both diagnosis and treatment, especially if he attempts to prepare his own remedies. Doubtless there are some simple modes of treatment which may be safely carried out; but in the oral transmission of the details of domestic medication the risk of a missing link has always to be reckoned with, and, to the experienced onlooker, the problematic nature of the sequel is intensely interesting. Happily, it is not often that ignorance is so fatal as in the recent instances in Cheshire. Two men have died, and a third lies in a precarious state, as the result of attempted self-medication. Imagining that they were suffering from itch, the advice of a fellow workman was taken, and some nitric acid and quicksilver were procured, mixed and applied to the skin. The druggist had labeled the bottles "Poison," but he does not appear to have made any inquiry as to the purpose for which the substances were to be used. A verdict of "Death from misadventure" was passed, and strong comments on the ignorance displayed were made by the coroner. To attempt to fathom the stages by which such ignorance has been reached may seem futile, and yet it appears within the bounds of possibility that this sad accident is really the result of confusion. Ammoniated mercury ointment and nitrate of mercury ointment have widespread uses. It seems just possible that with lapse of time simple directions for the preparation of the former have been muddled into the latter, and that in place of a precipitate a highly corrosive and poisonous liquor has been made. The substitution of nitric acid for ammonia, both being in common use, seems a fairly natural error, although the selection of liquid mercury for the solution of the perchloride of mercury is more difficult to follow. As it stands, the case sufficiently demonstrates the dangers and folly of attempting to compound remedies in complete ignorance of the properties they possess.

WHAT IS "CHEWING GUM"?

THE fine distinctions required by legal definitions frequently threaten confusion, even when the facts appear to be perfectly clear. There is no room for doubting the inconvenience and danger which may arise from the accumulation of a mass of paraffin wax in the intestines; and yet when any legal interference with the sale of chewing gum, containing 50 per cent. of this substance, is attempted, the charming uncertainties and quibbles which arise are more amusing than edifying. In a recent prosecution at the Hanley Borough Police-court it was first contended that the 14th section of the Food and Drugs Act, which relates to the division of the substance in the presence of the seller at the time of purchase, had not been complied with. Then it was submitted that the article was not one of food, since it was sold simply for chewing. Then it was suggested that, as sweets are so utterly indefinite in their composition, it was impossible to deal with them as ordinary articles of food. And the climax was reached in the contention that it was not sold to the prejudice of the purchaser, as the complainant said he did not intend to eat it. This was extremely ingenious, but the purchaser happened to be the inspector of nuisances, who was merely collecting evidence. The case ended for the present with the imposition of a fine, on the ground that the substance was sold to the prejudice of the purchaser, inasmuch as it was not in the nature of the substance and quality of the article demanded by the purchaser, who asked for gum and got paraffin wax. If the case is ever taken to a higher court, it is quite possible that it may be argued that the complainant did not ask for "gum," but for "chewing gum;" that he did not get "paraffin wax," but only 50 per cent. of "paraffin wax," and the remaining 50 per cent. of unknown ingredients which sufficiently bring the substance within the legal meaning of "chewing gum." But what is "chewing gum"? The following definition might be suggested: A substance of very variable composition, ignorantly employed by children, which, when containing paraffin wax, may lead to very grave dangers, and the sale of which should be prohibited.

FOREIGN UNIVERSITY INTELLIGENCE.

Giessen.—Dr. Philipp Stöhr of Zurich has accepted an invitation to the chair of Anatomy.

Vienna.—Dr. Eugen von Bamberger, son of the late Clinical Professor, has been appointed *Primararzt* in the Rudolf Hospital.

DEATHS OF EMINENT FOREIGN MEDICAL MEN.

THE deaths of the following distinguished members of the medical profession abroad have been announced:—Dr. Wilhelm Stricker, the well-known medical writer, at Frankfort, at the age of seventy-six, suddenly.—Dr. E. T. Schurry, physician to the Saxon Court, at the age of sixty-one.—Dr. N. Toloki, Professor of Midwifery in the University of Moscow.

IN his report on the chemical and bacteriological examination of the waters supplied to the inner and portions of the outer circle of the metropolis during the month of January, Dr. E. Frankland, F.R.S., states that the water taken from the Thames by the Southwark and Lambeth Companies was inferior in quality to that delivered in December; while that supplied by other companies was of a superior quality. The water of the New River maintained a high degree of chemical purity, and compared favourably with the deep well waters. The results of the bacteriological examination by the method of gelatine-plate culture devised by Dr. Koch showed that one cubic centimetre of the water developed the following numbers of colonies of microbes:—Kent, 27; New River, 68; East London (river supply), 93; West Middlesex, 180; Chelsea, 264; Lambeth, 595; Grand Junction, 1029; and Southwark, 2088. This process is an exceedingly delicate test of the efficiency of filtration, both natural and artificial, and the efficiency may, *cæteris paribus*, be taken as inversely proportional to the number of microbe colonies.

WE have been asked to state that the first volume of the Transactions of the Tenth International Medical Congress is now ready for distribution among the members and associates. Personal application may be made at the office, Jerusalemstrasse 38, Berlin, S.W., or those who desire that their copy should be forwarded by post are requested to intimate this to A. Hirschwald, publisher, Berlin, transmitting the postage for the volume, which for the German kingdom and Austria-Hungary amounts to 30 pfennigs, and for foreign countries 90 pfennigs (about 10½*d.*). Due notice will be given of the publication of the sectional proceedings.

DR. C. S. SHERRINGTON, Lecturer on Physiology at St. Thomas's Hospital, has been appointed Superintendent of the Brown Institution, vice Mr. Victor Horsley, F.R.S., who has resigned.

Pharmacology and Therapeutics.

THE GUBER MINERAL WATER.

DR. H. PASCHKIS publishes in the *Wiener Klinische Wochenschrift* an analysis of the Guber water of Srebrenica in Bosnia. It is clear, colourless, without odour, and has an acid and astringent taste. The latter is so slight that the water is taken undiluted, and even children like it; it may, however, be taken with wine. The absence of all unpleasant taste is due to the comparatively small quantity of iron. This is a great advantage, as small quantities of iron may be absorbed, while larger quantities interfere with the digestion and cause constipation. Four tablespoonfuls contain a third of a grain of iron and about $\frac{1}{1000}$th of a grain of arsenic. These small quantities make it immaterial at what time of day the water is taken. The author calls attention to the fact that when the effect is to be a local one, on the stomach or intestine, the water must generally be taken fasting. If the effect aimed at is a general one, it should be taken with food. According to his experience, nervous dyspepsia and any kind of dyspepsia in neurasthenic people are the most appropriate cases for treatment by Guber water. In four cases—one man and three women—improved appetite, a more healthy appearance, and increase of weight were observed after treatment of from four to six weeks. Most remarkable was the effect of the water on a young woman of twenty-eight, with neurasthenic troubles, insomnia, and entire absence of appetite. All the symptoms had twice entirely disappeared, but reappeared when she ceased to take the water, and again disappeared on the resumption of the treatment. Three cases of simple chlorosis were cured in eight weeks. The success in struma is doubtful. Brilliant results were obtained by systematic treatment by the water in two cases of oxaluria with slight traces of sugar, the cure, according to the author, clearly not being due to any effect of arsenic on diabetes. Good results were also obtained in furunculosis. No results, however, were obtained in two cases of slight psoriasis; the author considers this want of success entirely due to the small quantity of arsenic contained in three or four glasses of the water, the largest quantity taken in a day. Altogether, the Guber water is a valuable addition to the materia medica. It is generally at the beginning of the treatment taken in doses of from two to four tablespoonfuls by adults or teaspoonfuls by children, undiluted or with water or wine. The best time to drink it is just before or soon after meals, or it may be taken early in the morning. A favourable result is generally obtained in from six to eight weeks. As in the administration of all preparations of arsenic, the dose may gradually be trebled and then decreased again.

ALCOHOL IN ALBUMINURIA.

Dr. Guvich has examined very minutely the effects of giving alcohol in a number of cases of both chronic and acute forms of nephritis in the wards of the Obukhoff Hospital in St. Petersburg, and comes to the conclusion that in both classes of cases moderate quantities—that is to say, from three to six ounces of spirit containing 40 or 50 per cent. of alcohol—may be given daily for a fortnight without in any way acting injuriously on the kidneys, and without increasing the amount of albumen in the urine. It does not, he finds, exert any effect upon the quantity of urine secreted.

DEODORISATION OF IODOFORM BY CREOLIN.

Dr. Ludwig Váczi, a practitioner in Nagy-Karoly, communicates to the *Medicinish-chirurgische Rundschau* his discovery of the power of creolin to deodorise iodoform. He had prescribed an ointment consisting of one part of creolin, two of iodoform, and twenty-five parts of vaseline. On the following day he was surprised that not only was the usual colour of iodoform ointment changed, but that there was no smell of iodoform and only a slight smell of creolin. He points out how important it is in many cases that the presence of iodoform should not be known by its odour, and considers creolin the very best of all deodorising drugs for the same. It not only does not irritate, but it is also itself a good disinfectant.

GLYCERINE FREE FROM ARSENIC.

It is said that arsenic may be removed from glycerine by adding a certain amount of recently precipitated ferric oxide, and allowing the mixture to stand for several hours in a warm place. The product is then filtered, and the filtrate, which is now free from arsenic, is evaporated till it has the ordinary specific gravity of glycerine, or rather the water derived from the hydrated iron oxide is driven off at a moderate heat until the desired specific gravity is obtained.

TEST FOR COCAINE.

According to a pharmaceutical contemporary cocaine may be found even in small quantities in any substance which contains it by the following method. The substance or residue supposed to contain cocaine is first purified or concentrated by any of the ordinary methods until a dry or nearly dry residue is obtained likely to be pretty rich in cocaine if the latter is really present. A few minims of fuming nitrate acid (sp. gr. 1500) having been added, the magma is cautiously evaporated to dryness. The residue (in a small test-tube, capsule, or watch-glass) is then stirred with two or three drops of a very strong alcoholic solution

of potassa, and slightly warmed. If any trace of cocaine be present a very characteristic odour will be observed, which greatly resembles that of oil of peppermint.

THE TREATMENT OF TYPHOID FEVER BY CHLOROFORM.

Dr. Stepp of Nurenberg gave some time ago a lecture on the internal administration of chloroform, which in his hands had not only proved a most useful ingredient in lotions for the mouth and in gargles, but was also most successfully administered in acute diseases of the digestive organs, in chronic ulceration of the stomach, in croupous pneumonia, and in typhoid fever. Of the latter he had experience of six cases when he gave his lecture, which a year later, when he made a communication to the Munich *Medicinische Wochenschrift*, had increased to eighteen. In most of these cases he gave about six drops of chloroform in two ounces of water thrice daily, but occasionally he made a slight change by the addition of a scruple of quinine. The result of this treatment, even in the severest cases, was that in a few days drowsiness and delirium disappeared, the dry-coated tongue became moist, and the general state considerably improved. The temperature fell considerably in from eight to ten days, the stage of remissions was cut short, and convalescence accelerated. Relapses were unimportant. One case, that of a girl of thirteen, was fatal. On the average the fever lasted nineteen days in severe cases, and eight days in slight attacks. The longest continuance of the fever was thirty days, the shortest eight days. Dr. Stepp inclines to the belief that chloroform passes through the system without decomposition, and so exercises an anti-bacterial effect. He never saw any ill effects from its administration, and considers it a useful stimulant. It is, he thinks, impossible that the daily administration of one scruple of chloroform could have a deleterious effect on the blood by dissolving the corpuscles, which might very well result from the inhalation of enormous quantities of the anæsthetic.

APPLICATION FOR ACNE ROSACEA.

Dr. Unna of Hamburg has produced what he believes to be an ideal preparation of ichthyol for application in cases of acne rosacea. It is prepared by combining it with starch in the following manner:—Forty parts of starch are moistened with twenty parts of water, and this is well rubbed up with forty parts of ichthyol, and finally, one or one and a half parts of a strong solution of albumen intermixed with it. This is applied to the skin at night; it dries in about two minutes, and can be easily washed off in the morning. As there is no fatty matter in this varnish it is eminently suited as an application in lupus erythematosus, or, as Unna calls it, "ulerythema centrifugum," in which fatty matter is to be avoided.

THE STRUCTURE OF INSECTS IN RELATION TO RECENT VIEWS ON THE ORIGIN OF THE VERTEBRATES.

PROFESSOR BENJAMIN THOMPSON LOWNE, F.R.C.S., delivered last week at the Royal College of Surgeons three lectures on the Structure and Development of the Skeleton of the Head, the Nervous System, and Sensory Organs of Insects in relation to Recent Views on the Origin of Vertebrates, giving the results of work in which he has been engaged for at least fifteen or twenty years. His views are that the vertebrate and the arthropod stand in a genetic connexion with each other. He said: "If we seek for links uniting these two great subkingdoms, we must look for them amongst the most generalised groups in each: in the vertebrata amongst the amphibia, and especially the perennibranchiate forms; in the arthropods and in the king crab "Limulus," which hold a zoological position between the arachnids and the crustacea." The lecturer compared the embryos of the axolotl, as figured by Professor Parker with arthropod embryos, and showed many points of similarity. He then adverted to the fact that both Drs. Gaskell and Patten had independently arrived at the conclusion that the king crab stands in a genetic relation to the vertebrata.

The existence of a notochord in the chordata has been looked upon as of primary import in the question of the descent of vertebrates from an invertebrate type. Adopting, however, Gaskell's views, and holding that the central canal of the spinal cord represents the arthropod alimentary canal, the lecturer showed at some length that the proctodeum of the insect embryo corresponds with the mesenteron of the vertebrate; and he held that a notochord should rather be regarded as a secondary character, resulting from an invagination of the epiblast, than as a structure of high morphological significance; and he showed that a rod of cartilage, similar to a notochord, is actually developed on the dorsal surface of the invaginated head capsule of the blowfly larva, whilst those structures in invertebrates which have been supposed to represent a notochord have a similar origin. He pointed out that the structure which supported the nerve centres in Limulus, is composed of cartilage very like the cartilage of the vertebrata, and it could only, with great difficulty, be distinguished from it. Professor Ray Lankester was the first who made out this peculiar form of cartilage, which he said was developed from the mesoblast; while the lecturer, judging from the relation the structure bears to the same parts in insects, believed it to be an epiblastic structure. This led him to accept the view put forward by Dr. Patten in America and by Dr. Gaskell in this country, that the ventral surface of the anterior somites of the arthropods represents the basis cranii of the vertebrata. The relationship between the nervous system in the vertebrates and the arthropods led him to adopt Dr. Gaskell's hypothesis, inasmuch as it harmonised many things which had formerly puzzled biologists. For many years it had never occurred to him to compare any parts of the arthropods with the functional corresponding parts in the vertebrata. As soon as Dr. Gaskell showed that there were strong reasons for believing that the central canal of the spinal cord corresponds with the primary intestinal canal, the difficulty considerably diminished, and many parts of the insect were found to correspond so closely to parts of the vertebrate, that it was no longer possible to ignore the correspondences between the structures, both in development and in relation to their anatomical parts. Having given a description of the insect brain, Professor Lowne referred to the idea that the antennæ of insects were homologues of the ventral appendages. The evidence against that idea was becoming stronger and stronger every day. They were not lateral appendages, in the usual sense—a fact long since recognised by Professor Balfour,—but olfactory organs, corresponding point by point, more especially in relation to the nerve ganglia, to the olfactory organs of the vertebrata. Neither did the eyes of the insect represent ventral appendages; they bore no relation whatever to them.

The lecturer entered at great length into the details of the structure and development of the arthropod brain, and showed that it possesses many points of similarity with the cephalic nerve centres of vertebrates; that it is developed from three vesicles; and that median, pineal, eyes are developed in the wall of the middle vesicle. That there is actually a third ventricle from which the nerve of the median eyes, ocelli, arises.

The lecturer finally dealt with the development of the eye. The sensory organs of arthropods were usually developed by the process of invagination of the epiblast, just in the same way as the sense capsules of vertebrates were developed. The eyes first appeared as a single layer of cells in a kind of cup-shaped cavity, divided into at least two layers; from the surface layer a series of lenses was developed about 4000 to 6000 in number, instead of one great lens. In some insects there were as many as 24,000 to 30,000 separate lenses. These form the compound cornea. The lenses were very remarkable in their structure, and appeared to consist of a stroma very much like the stroma of the red blood-corpuscle of a vertebrate, and a substance which has a very highly refractive power, and which is fluid and soluble in ether. This substance gradually passes out through the stroma after the insect dies, and impregnates the other tissues, but in a living insect the cornea has the same kind of brilliancy as in the vertebrate; but as soon as the insect dies the brilliancy rapidly fades, and in a quarter of an hour it has become quite dull. The stroma consists of proteid substances, but as development progresses the albuminous material gives place to this highly refractive, probably oily material, and then the lenticular portion of the cornea becomes reticular after having been treated with such reagents as will dissolve out this interfibrillar substance. About twelve years ago, when examining the

lateral portions of the compound eye of the lobster, he continually found thickenings beneath the rod-like bodies which united the corneal portion of the eye with the nerve centres beneath, and he became convinced that no nerve structure passed through this membrane, and then it struck him that, in trying to make out that this structure was retinal, he was doing very much the same thing as examining the minute structure of the crystalline lens of the vertebrata, and coming to the conclusion that the rod-like fibres of that lens were in themselves not merely a portion of the refractive structure, but were actually the terminals of the optic nerve. He regards the whole of the structure developed from the superficial epiblast as a refracting organ, and with that view he had termed it the dioptron, or the refractive portion of the compound eye. In some insects which do not undergo metamorphosis the great compound eye is at first small, and consists only of a few facets, but a new portion of the eye is developed at each shedding of the integument. The nerve also gradually passes to the surface, encircles the old nerve, and forms a new retina. This goes on until at the last the optic nerve is found very much spread out. During the last shedding of the skin the whole of the retina undergoes degeneration, and a new one takes its place; so that new sets of facets are developed at each skin shedding, and a new retina is developed from the nerve centres beneath the dioptron.

In expounding the various theories of insect vision, the lecturer explained that Müller's theory of "mosaic vision" was not in itself tenable, because, in the first place, the images produced would be blurred, and surfaces of eight or ten inches square, would only be visible as points at very moderate distances—say, ten or twenty feet. The theory which the lecturer propounded was that an inverted subcorneal image was formed beneath each corneal facet, and the great rods of the dioptron produced a magnified erect image of that portion of the subcorneal image which lies in the axis of each. The integration of these images produces the retinal image upon what he had described as the "neuron." This image had actually been demonstrated by Sigismund Exner of Vienna, who first showed it at the Cologne Congress of Naturalists. The "mosaic view," or Müller's theory, announced about 1826, assumed that the tubes of the dioptron only permitted axial light to pass through them; so that each tube of the dioptron produces one distinct stimulation of the nerve, and there could only be as many separate sensations of light as there are tubes to the dioptron, a supposition which is quite incapable of explaining vision in an insect which has perhaps only fifteen or twenty lenticules of the eye, some only having five or six, although others have as many as 24,000 to 30,000. Even in those which have the largest number, the acuity of vision is not sufficiently explained by Müller's theory.

VIRCHOW TESTIMONIAL FUND.

THE following additional subscriptions to the above fund have been received:—

	£	s.	d.
Robert Munro, M.D. ..	1	1	0
W. Collier, M.D.	1	1	0
Sir George Paget, K.C.B.	1	1	0
Thomas Oliver, M.D. ..	1	1	0
Sidney Martin, M.D. ..	1	1	0
A. C. Maclaren, L.R.C.S.	2	2	0
H. Charlton Bastian, M.D.	1	1	0
Thomas Barlow, M.D. ..	1	1	0
Thomas Oliver, M.D. ..	1	1	0
Sidney Martin, M.D. ..	1	1	0
A. C. Maclaren, L.R.C.S.	2	2	0
H. Charlton Bastian, M.D.	1	1	0
Thomas Barlow, M.D. ..	1	1	0
R. Felkin, M.D.	1	1	0
E. Klein, M.D.	1	1	0
P. W. Latham, M.D. ..	1	1	0
Sir John Simon, K.C.B., F.R.S.	1	1	0
T. Sympson, F.R.C.S. ..	0	10	6

The Committee has been joined by Dr. Priestley and Dr. Samuel West.

Public Health and Poor Law.

LOCAL GOVERNMENT DEPARTMENT.

REPORTS OF INSPECTORS OF THE MEDICAL DEPARTMENT OF THE LOCAL GOVERNMENT BOARD.

On the Sanitary Condition of Wells, by Mr. SPEAR.—This report deals exclusively with the sanitary circumstances of this little Norfolk town, which is a small fishing and shipping centre. The sewerage cannot be commended, especially in such matters as lack of ventilation and flushing, but the authority has secured the abolition of the majority of the cesspools and privy pits which were formerly so general. The latter have unfortunately been replaced by tank closets, which cannot be regarded as a wholesome arrangement; but the object in contriving these, as also in remedying many of the old leaky drains, appears to have been the protection of the water-supply, which is exclusively derived from local wells. As to these, Mr. Spear points out that pure water is hardly to be expected from shallow wells sunk in a soil that has been occupied by human beings for ages, and which has until a comparatively recent time had its surface perforated by cesspools, privy pits, and faulty drain-pipes. Some samples of water were, it appears, sent to Dr. Frankland for analysis, and he was obliged to class them as "dangerous." And even as regards wells that are not so obviously fouled in so far as their chemical constituents are concerned, it is assumed that they only escape similar condemnation because the soil in which they are sunk is kept fairly clean by reason of an ebb and flow induced by tidal action. It is to be feared that locally no especial dissatisfaction prevails as to this water-supply, acquiescence in which would seem, Mr. Spear judges, to express the popular sense of the general wholesomeness and sufficiency of a water-service. No special outbreak of disease has recently occurred in Wells, but in 1884–85 a prevalence of enteric fever was found to have its focus in a well that was ascertained to be contaminated. It is stated that during the summer there is some influx of visitors into Wells. For this reason alone the local board of health should provide the town with a water that is above the suspicion of unwholesomeness; and such action on their part would certainly confer benefit on the resident population to an even greater extent than on occasional visitors.

VITAL STATISTICS.

HEALTH OF ENGLISH TOWNS.

IN twenty-eight of the largest English towns 6149 births and 4547 deaths were registered during the week ending March 7th. The annual rate of mortality in these towns, which had risen in the preceding four weeks from 19·8 to 24·1 per 1000, declined again to 23·7 last week. The rate was 23·4 in London and 23·9 in the twenty-seven provincial towns. During the past nine weeks of the current quarter the death-rate in the twenty-eight towns averaged 23·5 per 1000, and exceeded by 0·5 the mean rate in the corresponding periods of the ten years 1881–90. The lowest rates in these towns last week were 16·6 in Brighton, 17·3 in Wolverhampton, 17·4 in Nottingham, and 17·6 in Hull; the highest were 31·6 in Newcastle-on-Tyne, 32·5 in Huddersfield, 33·1 in Cardiff, and 33·9 in Halifax. The deaths referred to the principal zymotic diseases, which had increased in the preceding four weeks from 332 to 431, further rose last week to 470; they included 161 from whooping-cough, 160 from measles, 55 from diphtheria, 36 from scarlet fever, 32 from diarrhœa, 25 from "fever" (principally enteric), and one from small-pox. The lowest death-rates from these diseases were recorded in Wolverhampton, Norwich, Derby, and Birkenhead; the highest rates in Halifax, Salford, Blackburn, and Huddersfield. The greatest mortality from measles occurred in Sheffield, Portsmouth, Salford, Bristol, Blackburn, and Huddersfield; from whooping-cough in Halifax, Huddersfield, Birmingham, and Salford; and from "fever" in Halifax. The mortality from scarlet fever showed no marked excess in any of the large towns. The 55 deaths from diphtheria included 31 in London, 7 in Liverpool, 4 in Manchester, and 3 in Birmingham. One death from small-pox was registered in London, but no small-pox patients were under treatment in the Metropolitan Asylum Hospitals or in the Highgate Small-pox Hospital on Saturday last. The number of scarlet fever patients in the Metropolitan Asylum Hospitals and in the London Fever Hospital at the end of the week was 1184, and showed a further decline from recent weekly numbers; the patients admitted during the week were 87, against 113 and 80 in the preceding two weeks. The deaths referred to diseases of the respiratory organs in London, which had increased in the preceding four weeks from 428 to 685, were 673 last week, and exceeded the corrected average by 181. The causes of 76, or 1·7 per cent., of the deaths in the twenty-eight towns were not certified either by a registered medical practitioner or by a coroner. All the causes of death were duly certified in Brighton, Portsmouth, Leicester,

Sunderland, and in four other smaller towns. The largest proportions of uncertified deaths were recorded in Blackburn, Sheffield, and Liverpool.

HEALTH OF SCOTCH TOWNS.

The annual rate of mortality in the eight Scotch towns, which had increased in the preceding three weeks from 21·4 to 23·8 per 1000, further rose to 24·1 during the week ending March 7th, and was 0·4 above the rate that prevailed during the same period in the twenty-eight large English towns. The rates in the eight Scotch towns ranged from 12·3 in Perth and 13·5 in Leith to 28·3 in Glasgow and 37·1 in Paisley. The 628 deaths in these eight towns showed an increase of 8 upon the number in the preceding week, and included 34 which were referred to whooping-cough, 16 to measles, 10 to scarlet fever, 8 to diarrhœa, 6 to "fever," 5 to diphtheria, and not one to smallpox. In all, 79 deaths resulted from these principal zymotic diseases, against 50, 62, and 80 in the preceding three weeks. These 79 deaths were equal to an annual rate of 3·0 per 1000, which exceeded by 0·6 the mean rate last week from the same diseases in the twenty-eight English towns. The fatal cases of whooping-cough, which had increased from 13 to 27 in the preceding three weeks, further rose last week to 34, of which 16 occurred in Glasgow, 7 in Edinburgh, 4 in Dundee, and 4 in Leith. The deaths from measles, which had been 8 and 18 in the previous two weeks, declined last week to 16, and included 10 in Paisley and 4 in Glasgow. The 10 fatal cases of scarlet fever exceeded by 3 the number recorded in the preceding week, and included 7 in Glasgow and 2 in Paisley. The deaths referred to "fever," which had risen in the previous three weeks from 6 to 11, declined again last week to 6, of which 3 occurred in Edinburgh, where 3 of the 5 fatal cases of diphtheria were also recorded. The deaths referred to diseases of the respiratory organs in these towns, which had risen in the previous three weeks from 138 to 146, were again 146 last week, and were 35 below the number in the corresponding week of last year. The causes of 53, or more than 8 per cent., of the deaths in the eight towns last week were not certified.

HEALTH OF DUBLIN.

The death-rate in Dublin, which had increased in the preceding four weeks from 26·6 to 29·4 per 1000, declined to 28·2 during the week ending March 7th. During the first nine weeks of the current quarter the death-rate in the city averaged 31·4 per 1000, the rate for the same period being 23·6 in London and 21·0 in Edinburgh. The 191 deaths in Dublin showed a decline of 8 from the number in the preceding week, and included 2 which resulted from diphtheria, 1 measles, 1 from diarrhœa, and not one from smallpox, scarlet fever, whooping-cough, or "fever." Thus the deaths referred to the principal zymotic diseases, which had been 3 and 9 in the preceding two weeks, declined to 4 last week; they were equal to an annual rate of 0·6 per 1000, the rate from the same diseases being 1·8 in London and 2·8 in Edinburgh. The 2 fatal cases of diphtheria exceeded the number recorded in any of the preceding six weeks. The death from measles was the first recorded in any week since the end of January. The 191 deaths in Dublin last week included 32 of infants under one year of age and 46 of persons aged upwards of sixty years; the deaths both of infants and of elderly persons showed a decline from those returned in the preceding week. Three inquest cases and 2 deaths from violence were registered; and 65, or more than a third, of the deaths occurred in public institutions. The causes of 23, or more than 12 per cent., of the deaths in the city were not certified.

THE SERVICES.

ARMY MEDICAL STAFF. — Surgeon Robert Hippisley Cox resigns his commission (dated March 11th, 1891).

ARMY MEDICAL RESERVE OF OFFICERS.—Surgeon Philip Barnett Bentlif, Royal Jersey Artillery Militia, to be Surgeon, ranking as Captain (dated March 11th, 1891).

NAVAL MEDICAL SERVICE. — The following appointments have been made at the Admiralty:—Fleet Surgeons; Walter Reid, M.D., to the Royal Artillery Barracks, Eastney, and James Trimble to the *Camperdown* (dated March 10th, 1891). Staff Surgeon Alexander R. Joyce to the *Thunderer* (dated March 17th, 1891). Surgeons: Robert H. J. Brown to the *Thunderer* (dated March 17th, 1891); Horatio S. R. Sparrow to the *Rapid*, for the *Mildura;* Henry G. Jacob to the *Curaçoa*, for the *Wallaroo;* Thomas Austen to the *Curaçoa;* and Henry S. Jackson to the *Katoomba* (undated); Herbert P. Shuttleworth to the Royal Marine Artillery, Eastney (undated); Edward B. Hazleton, M.D., to be Surgeon and Agent at Clovelly (dated March 5th, 1891).

VOLUNTEER CORPS. — *Rifle:* 6th Volunteer Battalion, the King's (Liverpool Regiment): Acting Surgeon E. W. Barnes to be Surgeon (dated March 7th, 1891).—2nd Volunteer Battalion, the Lincolnshire Regiment: Acting Surgeon T. P. Greenwood resigns his appointment (dated March 7th, 1891) —1st (Hertfordshire) Volunteer Battalion, the Bedfordshire Regiment: Acting Surgeon H. O. F. Butcher resigns his appointment (dated March 7th, 1891). — 4th Volunteer Battalion, the Hampshire Regiment: Surgeon H. G. Dyer, M.D., is granted the rank of Surgeon-Major, ranking as Major (dated March 7th, 1891). — 5th Volunteer Battalion, Princess Louise's (Argyll and Sutherland Highlanders): Acting Surgeon D. McMillan, M.B., to be Surgeon (dated March 7th, 1891).—1st London (City of London Rifle Volunteer Brigade): Edgar Alfred Hughes, Gent., to be Acting Surgeon (dated March 7th, 1891).

Correspondence.

"Audi alteram partem."

THE FACTORY ACT AND CERTIFYING SURGEONS.

To the Editors of THE LANCET.

SIRS,—Much misrepresentation of the duties of certifying surgeons has been laid before the public in letters and reports of the proceedings of chambers of commerce by men who would be the first to cry out for impartial arbitration, should any question touching their own duties and incomes arise. In the first place, these writers state that the duties of the surgeons consist merely in making certain clerical entries, which work they consider can be fully as well done by a clerk; they either are ignorant, in which case they should be silent, or they deliberately ignore for their own purposes the fact, that in each separate certificate the surgeon states by his signature that he has personally examined each child or young person, and is of opinion that such child or young person is not incapacitated by disease or bodily infirmity from working the time allowed by law in that particular factory. This no member of any chamber of commerce in the kingdom can truthfully contradict. With a well-grounded fear these statements may be insufficient, these same men proceed to tell us that the certifying surgeons never or hardly ever refuse for disease or bodily infirmity to pass a child, and should they have done so, that it is merely by reason of recent agitation. In answer to this I would mention some few cases out of many in my own practice as certifying surgeon. In the month of July, 1881, nearly ten years ago, I was obliged to write to H.M. inspector in a case where an employer defied my refusal, and insisted on working a boy with heart disease and serious eye disease (bad case of mitral incompetence, with double coloboma anterior and posterior and nystagmus), for which I am happy to say he was fined. On another occasion a bad case of heart disease and chorea, or St. Vitus's dance, was refused, and very soon ended fatally. On one occasion I have been threatened with legal proceedings by the father of a girl, who had an epileptic fit in the mill office, while I was there for purposes of certifying; in another with a boy who was totally unfit for factory employment who had been three times presented to me for certificate, in the hopes he might pass by a "fluke"; in another case the parents offered to indemnify the employer against consequences if accident or death from machinery should ensue to a girl suffering from deaf-mutism and debility. Had I passed any of these the cry might well have been, "What is the good of these surgeons?" Cases of heart disease, consumption, rheumatism, spinal disease, epilepsy, eye disease, and skin disease, of undergrowth, and under-

development repeatedly are under notice and observation. For rather more than ten years I have been engaged on factory work, and during the whole of that period I have been in the habit of refusing or keeping under observation all children or young persons whom I have thought unfit, with, I consider, distinct advantage to all concerned. I always give the child the benefit of the doubt, as every small addition of wages to a house means more food, and by inquiry from time to time ascertain how its health progresses.

Another objection has been raised to the office; we are asked, "What good are these surgeons? They see a child at ten, and again at thirteen. What can they say as to its fitness between these ages?" This may be a point against the imperfection of existing legislation, but the answer under the circumstances is decisive—the surgeon if he sees a child at ten unfit for work, refuses it, and refuses it until he sees that it is fit for work, and similarly again at thirteen, should the health unfortunately have failed between the two ages. And, again, to this objection, among the better cared-for children of the more provident operatives, who are not in the habit of migrating from mill to mill in a district, there is, as a rule, a better condition of health; they are frequently only seen twice, because they seldom change their employment, and are less in need of re-examination than the worse cared-for children of the slums, who migrate from mill to mill in a district, and therefore, fortunately for themselves, come oftener under observation. Other causes and influences at work to keep up a constant circulation of children do not come under the surgeon's scope, and are more connected with the social and moral questions of divided authority and small premiums or commissions on employment. Lancashire and Yorkshire employ 137,000 half-time children, as against 41,800 for all the remainder of England and Wales, and it is certain that they employ young persons under sixteen years of age in like or probably larger proportion, with constant circulating changes taking place in these important, smoky, crowded districts. I often examine as many as 100 in a week, occasionally as many as 200. It is obvious that the certifying surgeon must inspect these children as a whole more frequently than twice, and when it is remembered that from ten to seventeen is probably the most critical period of youthful development the importance of this can hardly be over-estimated as a matter of State hygiene. Then the question of payment of the surgeon's charges by the parent has been raised. The Act says that the employer may deduct 3*d.* from the wages of such child as its share towards the payment of the surgeon's fee. This is frequently evaded, and the full fee or its proportionate part demanded from the parent as a condition of employment, dividing the whole cost among one or more parents. In some cases the employer makes a very fair profit on the surgeon's visits, as he takes the full fee from each child or young person. I have known the employer take half-a-crown each from the parents of five children and pay me the half-crown fee (sixpence each), putting ten shillings into his own pocket, and on some occasions I have been personally upbraided by the parents as the perpetrator of this atrocity. I am glad to say that, though too frequently adopted, this plan is only carried out by a minority of employers in this district; but this last fact has naturally strongly influenced the operatives themselves, who are unaware that the maximum cost to themselves is, or ought to be, threepence for the surgical certificate, and that they are overcharged by the employer on a mere pretext. The question of expense to the employer has been mentioned. In the above cases he is shown to profit; but mills are hinted at, not named, which pay the surgeons sums varying from £20 to £40 a year for certifying. I cannot doubt that any surgeon in whose district this has occurred will be glad of the opportunity of confirming and explaining or denying it. Personally, I will believe the statement after it has been proved. The charges are laid down in Section 74 of the Act, and I have frequently, when asked, pointed out this and other details of the Act in my own copy to men who do not possess one, and whose knowledge even of the short abstract is very limited, and it cannot be doubted that our visits are a valuable aid to H.M. inspectors, whose duties are so extensive that they could not without us be kept in such close and continual touch with all parts of their district as is now the case.

I write as a representative factory surgeon, living in a manufacturing centre, and well aware employers and employed are as a rule alike ignorant of elementary sanitary matters and consequently incompetent to form opinions of any value upon them. Otherwise the one class would not create, nor either tolerate, our smoke-defiled atmosphere, polluted streams, and other unwholesome conditions of existence. They may confer with advantage on work and wages, but where their personal health is in question they do not consult self-created chambers of commerce or mutually prescribe for each other. Yet according to the speech of an Under-Secretary of State, numbers and not knowledge are sufficient to constitute "the most influential" deputations on important public questions which lie behind their intelligence and experience, and involve in our case the sudden sacrifice of efficient public servants upon the altar of, shall we say, a general election?

I am, Sirs, yours faithfully,

Rochdale, March 7th, 1891. WILLIAM STANWELL.

THE TREATMENT OF CHRONIC DISEASE OF THE UTERINE APPENDAGES.

To the Editors of THE LANCET.

SIRS,—It is impossible from the nature of the case for one who thinks that a disease has been present and ended in recovery to bring evidence of the fact convincing to the incredulous. By inflammation of the uterine appendages I mean what I think most medical men understand by it. It has long been known that the commonest cause of perimetritis is inflammation of the Fallopian tube; that matting together of tube, ovary, and adjacent parts is very commonly seen on the post-mortem table; and that tender fixed lumps by the side of and behind the uterus, with symptoms such as Mr. Tait has described as those of distension of the tubes, are very often met with during life. Mr. Tait has himself admitted that it is often impossible until the abdomen has been opened to say what these lumps are—whether they contain blood, pus, or serum; whether this is in the tube, the ovary, or in a cavity bounded by adhesions in their neighbourhood, and sometimes this latter point cannot be determined even after the parts have been removed. These lumps are what I mean by inflammation of the uterine appendages. The great majority of them, if sufficient time and rest be given, end in diminution in size or even practical disappearance of the lumps and cessation of symptoms. I do not doubt that there are some cases which can only be cured by operation; but I believe that the more patient the trial allowed to the *vis medicatrix naturæ*, the fewer will these cases be found to be.

I am, Sirs, yours faithfully,

Harley-street, March 10th, 1891. G. ERNEST HERMAN.

THE TREATMENT OF PHTHISIS.

To the Editors of THE LANCET.

SIRS,—I am a constant reader of THE LANCET, and have been following with marked interest the controversies upon Koch's cure and the various theories as to its mode of action. I beg to record a case in which the cure was effected, not by strong measures like those of Koch, or by the empirical methods from Paris by dog's serum and goat's blood, but recovery has been brought about by what I must call an accident of Nature in the course of the disease.

The case is shortly as follows:—J. W——, aged twenty years, male, came under my care towards the end of October last year, when I recognised he was suffering from phthisis of the lungs, and his illness shortly after took an acute form, manifesting all the symptoms of that terrible disease. I need not indicate his symptoms more than to refer to the temperature, which ranged from 103° to 101° F. night and morning the first month, and afterwards from 102° to 100° and 99° after that. The patient was going steadily down hill and was markedly weak, and to show the extent of his disease the trophic centres became affected, as illustrated in paresis of the bladder, and ere long a large bedsore formed over the sacrum. There were tubercle bacilli in the sputum, but afterwards many other kinds of bacteria were to be seen in the expectoration. The bedsore became a large slough about Nov. 29th, and from that day it very much engaged my attention, requiring all manner of dressings &c. On the 16th, 24th, and 29th the temperature rose to 103·8° and 103°, and was brought down by antipyrin. On

the last occasion it did not come down to a satisfactory point till Dec. 9th. On Thursday, Dec. 11th, I found the patient changed. By this time the slough was removed. His face was livid and suffused, the veins standing out on his temples, and the temperature registered 104·6°. There were moist crepitant sounds in the lungs. I administered a full dose of antipyrin, and by evening I had the satisfaction to see the temperature down to normal, and the patient looked his usual again. From that day the temperature has remained at normal or below it, and ere long the symptoms began to disappear—the cough, spit, sweating, &c.—and in two weeks the bedsore was a large healing wound. The patient began to get back his appetite, and though stimulants were administered there was a return to strength. The patient seemed to pass through a stage of hyperæsthesia until he got fairly on the road to recovery. To bring the case to a conclusion, the wound has gone on slowly but steadily healing up, and with return of appetite the patient has gained strength and weight, so that now he is able to walk about the house. There has been no cough, and the patient has not been so well for many months. It has been pointed out that small-pox &c. have been known to cure phthisis, and erysipelas has driven away lupus. I beg to place this case on record as a case cured by incipient septicæmia, for I can regard as no other these rises of temperature when the bedsore was covered in greater part with a black slough, and such was my diagnosis at the time when I saw the state of the wound. It would seem that some principle like sepsine was formed and circulated in the blood, and, reaching the tuberculous areas, acted as an antagonist to the disease and killed the tubercle bacilli. Hence the disappearance of the symptoms. Is it not possible that Koch's liquid may not be a genuine specific for phthisis, but merely one of the numerous fever agencies which bring about phenomena when they find a proper nidus in the organism? Whatever may be said, it is not the only agency which kills the tubercle bacilli and cures phthisis. It may be that this case I record will be of interest to those deeply versed in the etiology and cure of tuberculosis.

I am, Sirs, your obedient servant,

Leith, N.B., Feb. 19th, 1891. JAMES W. MARTIN, M D.

THE TREATMENT OF PHTHISIS BY THE INHALATION OF SUPERHEATED AIR.

To the Editors of THE LANCET.

SIRS,—Dr. J. Cranstoun Charles in his article in THE LANCET on the above treatment of phthisis, after explaining the *rationale* of the method, proceeds to say: "Without going into the question of the temperature of this heated air when it reaches the lungs &c." It is somewhat surprising that Dr. Charles did not remind your readers that there is very good evidence that air, at whatever temperature inhaled, reaches the lungs very slightly, if at all, above the temperature of the blood. By some experiments carried on at the Consumption Hospital, Brompton, the result of which I read before the Clinical Society last session, this all-important point was pretty definitely settled.

"There was a patient under the care of Dr. Mitchell Bruce[1] with well-marked bronchiectatic excavation of the base of the left lung. Mr. Godlee had successfully tapped it after removing a piece of rib. On illuminating the interior of the cavity two openings could be distinctly seen, and a probe could be passed up them, and appeared to reach somewhere near the trachea, and caused coughing. Air passed very freely in and out of the cavity. When the patient inhaled peppermint it could be smelt at the wound, and when it was blown through the opening he almost instantaneously tasted it. This showed that there was a very free communication between the mouth and the cavity. Inspection of the lung, which was removed after death, clearly shows how very free this communication was. This patient was set to inhale hot air, which he did at about a temperature of 300° F. A thermometer was placed free in the cavity, and carefully plugged in. At the end of one hour the thermometer only rose 1°. The patient thought it was a form of treatment which suited him, so we had no difficulty in repeating this experiment several times, and always with the same result. Another case soon occurred which gave us further opportunities of trying experiments. A patient was admitted under the care of Dr Tatham, also with a cavity at the base of the left lung. Its exact nature was never determined, as he fortunately made a complete recovery. It was tapped by Mr. Godlee after resecting a piece of rib. In this case also there was a free communication with the mouth, but not quite so free as in the preceding case, as he did not taste the peppermint quite so instantaneously. A probe could be passed up towards the trachea, which he said he felt, and it caused much coughing. The same experiments were repeated on him, but in his case the thermometer never rose at all. I think that these experiments show what most of us would have expected—viz., that the temperature of superheated air is rapidly dissipated in the mouth, pharynx, and larger air-tubes. These structures are extremely vascular, and the rapidity with which the blood circulates appears quite able to carry off any superfluous heat, and reduce the air to the normal temperature of the blood before it reaches the smaller bronchi and pulmonary tissue. It follows, then, that the inhalation of superheated air can have no influence over the course of phthisis."

[1] Clinical Society's Transactions, vol. xxiii.

Some experiments have also been made by Dr. Ernest Schowald of Jena on dogs, and the conclusions he came to were the same as my own. I should not have troubled you with this communication but an inventor of one of these hot-air machines is actively advertising it.

I am, Sirs, faithfully yours,

Brighton, March 9th, 1891. H. H. TAYLOR.

EMPYEMA OF THE ANTRUM.

To the Editors of THE LANCET.

SIRS,—Dr. Hunter Mackenzie, in his interesting letter in your issue of the 7th inst., tells us that, from his experience, it is rare to detect pus in the antrum without caries of the corresponding teeth. It is always instructive to have the opinion of so careful and trustworthy an observer; but I think his statements would prove of even more value if he would give us some idea of the number of cases of empyema of the antrum he has observed and treated. Such a statement appears to me to be essential to the great question among rhinologists—viz., whether disease of the teeth or some gross inflammatory affection of the nose is to be considered the commoner cause of suppuration in the antrum. In my forty cases I have never held a simple coexistent rhinitis to be responsible for the mischief, although, as Dr. Mackenzie suggests, such is often apparently caused by the irritation of the septic discharge through the ostium maxillare. Nor do I consider it fair to assume that a coexistent carious tooth is necessarily the cause of the suppuration. We ought at least to have a periostitis of the fang, with suppuration around it, or penetration of the fang into the cavity above, before we can, on pathological grounds, assume that dental disease is responsible for the mischief. Unfilled carious teeth are so common among hospital patients that it is unusual to find no carious teeth in either a case of empyema of the antrum or any other disease. In fact, Sirs, I do not hesitate to affirm that the large majority of cases of nasal polypus, associated with a purulent discharge from the nose (I do not say mucopurulent), will be found to be associated with pus in the antrum; and, as I have remarked before, I believe it is the frequent coexistence of nose disease, which might in itself be considered sufficient to account for the suppuration without supposing the antrum to be involved, that explains why so many cases of empyema of that cavity are overlooked.

I am, Sirs, yours truly,

Harley-street, March 9th, 1891. GREVILLE MACDONALD.

ETIOLOGY OF ENTERIC FEVER.

To the Editors of THE LANCET.

SIRS,—In December I was sent for to see a boy whose symptoms turned out to be those of typhoid fever. He is recovering, but a younger brother is now ill with the same complaint. Notice was given to the urban sanitary authority, and the medical officer of health visited the house where these patients live and found nothing amiss with its drainage or water-supply. For years there has not been a case of this fever in the town, and there is none existing in the neighbourhood. The boys have not been outside the town for many months. About the time when the boy first attacked was taken ill there had been occasional most unpleasant smells in the parish church, where he is a choir boy. Some thought the stench came from the sewer leading from the schools, and into which the church tower drain pours; others maintained the smell was not sewer smell at all, but was due to mouldering Christians buried in and closely around the church. But as these two boys are the only individuals who have contracted typhoid fever, it would seem improbable that the church smells were causative. No other guess has been hazarded as to the origin. The drinking water they used is that common to Trowbridge and many neighbouring villages, as well as this town. There is, and

has been, no typhoid fever at the farm from which their milk is supplied. It would seem, then, as if the first of these cases had originated *de novo;* the second contracted from the first.—I am, Sirs, yours obediently,

Melksham, Wilts, Jan. 27th, 1891. SAMUEL GROSE.

AMBULANCE CLASSES FOR THE MERCANTILE MARINE.

To the Editors of THE LANCET.

SIRS,—I read with much interest the letter of Mr. C. H. Leet in THE LANCET of Feb. 28th, and I should be very glad to learn that the efforts of himself and those who are working with him meet with the encouragement they deserve, as there is no class to whom first-aid instruction is more necessary than the officers and men of the mercantile marine, especially those on board vessels which do not carry a doctor. Some years ago I assisted, on behalf of the St. John Ambulance Association, in the inauguration of this work at Liverpool and other ports, but there was a very great difficulty in finding officers who could give sufficient time to attend the lectures, although the syllabus was altered and compressed to meet their special requirements. With regard to this subject, I received in 1882 a letter from the Marine Department of the Board of Trade, which contains the following paragraph:—"With reference to the correspondence, and to your recent interview, with officers of this department on the subject of the instructions of masters and mates in the mercantile marine, I am directed by the Board of Trade to acquaint you, for the information of the committee of the St. John Ambulance Association, that the Board of Trade, after careful consideration of the subject, are disposed so far to assist the Association in this matter as to authorise the placing by the Registrar-General of Seamen of an endorsement upon the certificates of such officers as are reputed by the Association examiners to have passed successfully in this subject. I am, at the same time, to state that before conveying such authority to the Registrar-General of Seamen they will require to have before them some further information as to the character of the instruction, and of the examination which will be employed, and of the arrangements generally, bearing in mind the limited time at the disposal of officers of the mercantile marine for acquiring knowledge of this kind."

This is such a valuable concession that I am sure it will strengthen the hands of those who are now taking up this important matter.—I am, Sirs, yours faithfully,

March 4th, 1891. JOHN FURLEY.

MEDICAL MEN AND THE NOTIFICATION OF DISEASES ACT, 1889.

To the Editors of THE LANCET.

SIRS,—The recent vexatious prosecution instituted against me by the vestry of Clerkenwell, which is fully reported in THE LANCET of the 7th inst, shows the necessity and great advantage derived from belonging to such an institution as the Medical Defence Union. On my informing one of the hon. secretaries (Dr. Bateman, of 64, Longridge-road, S.W.) that a summons was about to be issued against me, he immediately took steps for my defence, and neither trouble nor expense was spared to make the case a winning one. It frequently happens that medical men are saddled with heavy costs in defending their professional reputation and private character against unjust prosecutions, necessitating their appealing to their professional brethren for assistance; whereas, by belonging to this excellent Society, they would be saved much of the anxiety attending such prosecutions and the humiliating position of having to appeal under such circumstances.

I am, Sirs, your obedient servant,

March 9th, 1891. F. L. MILBURN.

ERYSIPELAS AND TOTAL ABSTAINERS.

To the Editors of THE LANCET.

SIRS,—My absence from England has prevented my taking notice before now of Dr. Ridge's letter in your issue of the 21st ult. He seems to have "run amuck" on the subject of alcohol generally. I do not see the point of his letter, and did not advocate the immoderate use of alcohol. I am quite aware that alcohol in large doses, especially in the high temperature produced by disease, lowers the temperature of the body, but unaware that small doses of alcohol, well diluted, in health do so; in fact, the evidence goes to prove the contrary. The statistics he quotes on the rate of invaliding in India do not, I imagine, separate the moderate from the immoderate drinkers, and, if not, are worthless as far as the present question goes. Reference to any of the standard works on the subject will probably tell him why alcohol in small doses is classed as a heat-producing agent. Dr. Parkes, who experimented largely on the subject of alcohol, found that a man in health could take about 2oz. of pure alcohol daily without any deleterious effect, and the question I asked was whether, under certain conditions, it was not beneficial. I should recommend Dr. Ridge, instead of instituting fresh experiments, to study what is already known on the subject; his knowledge on this particular point seems to require, to say the least of it, revision. I regret that my absence abroad will for the present prevent my continuing this discussion, which promises to be both amusing and instructive.

I am, Sirs, yours faithfully,

Montreux, March 3rd, 1891. H. R. WHITEHEAD.

LIVERPOOL.

(FROM OUR OWN CORRESPONDENT.)

Society for the Prevention of Cruelty to Children.

DURING the month of February the local Society for the Prevention of Cruelty to Children, which is the first of its kind, took up 62 new and 61 old cases, the former involving the welfare of 92 and the latter that of 72 children. Among the complaints were—4 of assault, 58 of general neglect, 1 of begging by night, 49 of selling at night, 40 of exposure, 8 of sleeping out, 4 of dangerous surroundings. Great efforts are being made to prevent children trading by night, a form of cruelty practised by many idle and vicious parents, who, instead of providing for their children, expect the latter to provide for them.

Legislation for Midwives.

There is a phase of the present controversy respecting midwives which appears to have escaped notice. Not many years ago the average hospital and workhouse nurse was a drunken, ignorant old hag. Without any legislation all that has been changed, hospitals and workhouses being now supplied with well-educated, thoroughly trained young women, many, indeed, being ladies in the strictest sense of the word. Moreover, private nursing has been developed to a most extraordinary extent, quite as greatly to the advantage of the rich as the improved hospital and workhouse nursing are to the poor. In Liverpool an attempt was made almost a century ago to improve the status of midwives by the aid of the Ladies' Charity, the midwives of which were previously trained and examined by the surgeons before being appointed to office. Later on the Lying-in Hospital carried on this educational process, extending it also to monthly nurses, whose position has greatly improved in recent years. But in this, as in other cities and towns, many women little, if any, better than the midwife of old, still practise among the poor, and among those who, not being poor, are still foolish enough to employ them. The records of our coroner's court within the last twenty years would furnish material enough to fill many columns of THE LANCET with sad illustrations of the fatal results caused by the ignorance and, what is worse, by the persistent recklessness of these women in refusing to send for medical aid when it is imperative. It is bad enough in large towns and cities, but what must it be in remote villages and hamlets far away from medical aid? Legislation is absolutely necessary to prevent ignorant and incompetent women from practising for gain to the danger of those women who employ them. A drunken old hag could not obtain a situation as nurse to a hospital or workhouse, but there is nothing to prevent her putting a brass plate with "Midwife" under her name on her door. In this simple fact lies the whole question to be solved.

The late Assistant Recorder of Liverpool.

Mr. Leofric Temple, Q.C., whose death occurred on the 6th inst., was well known to the medical profession here, in London, and elsewhere. Formerly he was engaged as

counsel in many remarkable trials. As Assistant Recorder here he was most courteous and considerate to medical witnesses, doing his utmost to save them from loss of time and the many other annoyances to which medical witnesses are liable.

The Spring Assizes.

In charging the grand jury, Mr. Justice Day complained of the accommodation provided for prisoners before trial at the Assize Courts. Though much better than that of other assize cities, it is not worthy of such a city as this, or consistent with the other parts of the magnificent hall (St. George's) in which the courts are situated. It is to be hoped that his lordship's attention will next be called to the inadequate provision made for witnesses, even professional ones, which is most miserable. Medical practitioners have to wait for hours on a landing at the top of a flight of stairs amid a crowd of other witnesses, and in a most polluted atmosphere, waiting their turn to go before the Grand Jury. The room for witnesses near the Crown Court is a comfortless and unhealthy apartment, and medical witnesses have to choose between sitting in court on a seat generally overcrowded, or walking about the passages.

The Anatomical Rooms of the Medical Faculty, Liverpool University.

During the winter session now approaching its close the anatomy class of the School of Medicine has been well attended. Professor Mitchell Banks continues to lecture on this very important branch of medical education, and he is ably supported by Mr. Thelwall Thomas. The rooms are furnished with every requisite for the teaching of anatomy. Altogether, the anatomical department of the Liverpool School of Medicine will compare not unfavourably with those of metropolitan schools.

Liverpool, March 10th.

NORTHERN COUNTIES NOTES.

(FROM OUR OWN CORRESPONDENT.)

Barber Surgeons.

AT the last meeting of the Newcastle Society of Antiquaries Dr. Embleton read an interesting and amusing paper on the Incorporated Society of Barber Surgeons &c. of Newcastle. It described the customs and rules of this ancient Society, and their practice as to bloodletting &c. The records show that the barbers were fined for trimming their customers on the Sabbath day, and fines were also imposed when members used "ill words" to each other. For "giving" members the "lie" fines respectively of from 3*d.* to 6*d.* had been made. Dr. Embleton has promised to read a second paper on the subject.

The Health of Tynemouth.

The medical officer of health for Tynemouth writes to the *Newcastle Daily Chronicle* to explain a misapprehension which has taken place from confusing the borough of Tynemouth with Tynemouth Village as to sanitary reports. The borough of Tynemouth, he explains, includes the whole of North Shields and several adjacent villages, and contains a population of 50,000 people. In Tynemouth Village itself there were only two deaths in the year from any of the chief zymotic diseases, and during the last months only two cases of infectious diseases have been reported in the borough, one of scarlet fever and one of typhoid fever, the latter imported. The Village of Tynemouth stands high, and deserves to do so as a watering-place and health-resort.

The Notification of Measles in Newcastle.

It is a considerable period now since the medical officer of health for the city of Newcastle (Mr. H. E. Armstrong) was requested by the Sanitary Committee of the Corporation to obtain particulars as to the extent to which the notification of measles was in force elsewhere, and on other points bearing on the general question. This he has done by addressing a series of questions to the principal large towns in England and Scotland. These replies, together with opinions given in the annual reports of several health officers, he has collected and summarised in a very careful, fair, and painstaking manner, and presented as a report to the Sanitary Committee. Mr. Armstrong, in some appended remarks as to the general question of the notification of measles, says that "the fact that few towns have notification of measles is no argument against the principle." The same, he says, was said only eight or ten years ago of notification of infectious diseases of every kind. In conclusion, he gives several very strong and forcible reasons for the notification of measles, and recommends his committee to give it a trial in Newcastle for a period of, say, five years.

The Newcastle Health Society's Lectures.

The lectures given under the auspices of the Newcastle Health Society have now concluded. Two lectures have been given since I wrote last on the subject. The first by Mr. R. Clark Newton, on "Exercise and Athletism: Use and Abuse," at which Dr. Arnison presided. The concluding lecture of the series was given on Saturday last, on "Dangers to Health from Defective Drainage," by Mr. R. Laing Hay, architect, North-Eastern Sanitary Inspection Society, and Dr. Hume presided. The course has been highly successful; the lecturers are men of acknowledged ability, and their selection of subjects was judicious; while the public throughout have shown appreciation by a crowded attendance.

Hypnotism in Newcastle.

We have lately had some public exhibitions of "hypnotism," so called, in Newcastle, but to any middle-aged person these exhibitions differ little from the mesmeric performances of several years ago. The performer is most successful, or, as he says, has most power over his own travelling company. Several medical students went on the platform, but he could do nothing with them,—a sign that they were, I suppose, a very "hardened" set as regards nervous impressions. The Rev. Dr. Ross, one of our leading ministers, takes the matter up very seriously, and writes a condemnatory letter on the subject to the *Newcastle Journal*. He does not discuss the scientific aspect of the question, but concludes that all public exhibitions of hypnotism should be legally prohibited; that the medical use of it should be strictly limited to properly qualified members of the profession, and to certain districts or institutions; and that there are strong reasons against the public practice of hypnosis as a source of entertainment.

Gateshead.

Only a fortnight ago I noted the death of the oldest practitioner in Gateshead, Dr. Dixon. I now have to mention the death of a very promising young physician, who might be said to be on the threshold of professional practice, Mr. Charles Wilson, M.B. Lond., son of Dr. R. H. Wilson, Gateshead, and a leading practitioner there. Dr. C. Wilson acted as house physician to the London Hospital, in which capacity he unfortunately contracted a post-mortem wound which led to empyema and ultimately to fibroid phthisis, causing his death on the 5th inst. at his father's house.

Koch's Treatment of Tuberculosis.

With regard to Koch's treatment of tuberculosis in Newcastle, I have spoken to a leading physician here, and he assures me that he knows of one undoubted cure of pulmonary consumption from the treatment. The case, he said, had progressed so far as to have cavities, and these appeared to heal up under the treatment, and all symptoms of phthisis have also disappeared.

Dr. William Robertson, who had a serious accident from a corrosive acid some time ago, has now quite recovered.

Newcastle-on-Tyne, March 10th.

SCOTLAND.

(FROM OUR OWN CORRESPONDENTS.)

Edinburgh Medico-Chirurgical Society.

AT the meeting of this Society last week a number of interesting specimens and cases were shown, including a case of Friedreich's ataxia in a boy; two cases of brain tumour, the position of one of which was diagnosed by the area of the field of vision affected and the position of the unaffected area, and the other a cerebellar tumour with a distinct history of five years' duration; and photographs of a case of facial hemiatrophy. These were shown by Dr. Bramwell. Dr. Affleck showed a patient with vasomotor disturbance of the hands and lividity, due probably to injury, and which he regarded as being probably allied to Raynaud's disease. Dr. W. Russell showed a lung with mul-

tiple sarcomatous tumours secondary to sarcoma of the thigh, which had been removed by Mr. Duncan, the lungs being the only organs affected. A paper was read by Mr. Duncan on Stricture of the Œsophagus and Gastrostomy. He reviewed the various causes of stricture, and dwelt mainly on the differential diagnosis of malignant stricture. As regarded operative interference, he preferred gastrostomy to any other procedure. He considered it a mistake to make two operations— a preliminary one and a second for the purpose of opening the stomach. He completed the operation at once, and only made a small opening in the stomach, into which he put a tightly fitting tube. Out of seven cases on which he had operated five had lived for months, had put on flesh, and had their symptoms greatly ameliorated, although they had ultimately died from extension of the disease or from some intercurrent affection. The two that had died were in a very prostrate condition, and he thought that the bad result in them was in part due to the double operation, instead of making it a single one. The second paper was by Dr. Byrom Bramwell, on the Symptoms of Myxœdema and of Exophthalmic Goitre contrasted. After reviewing the symptoms in the two conditions he regarded them as antithetic. Professor Greenfield regarded exophthalmic goitre as due to disease of the thyroid gland, but this view did not find favour with the other speakers or with Dr. Bramwell. Mr. Duncan gave his experience of electrolysis of the thyroid, and thought it might be of benefit in exophthalmic goitre, for he had had one case in which it had been.

The Edinburgh Sanitary Protection Association.

The annual meeting of this Association was held at the end of last week, Professor Sir Douglas Maclagan presiding. The Council's report was of a very gratifying kind, and alluded to the remarkable success which had attended the efforts made to establish an institution which had been of so much benefit to the community. It and its various branches had done much to educate public opinion and to arouse the attention of officials to the means of resisting disease and of increasing comfort and security in their dwelling-houses.

Health of Edinburgh.

The mortality last week was 109 and the death-rate 21 per 1000. Diseases of the chest caused 35 deaths and zymotic diseases 16, of which 8 were due to whooping-cough. The intimations comprised 20 cases of typhoid fever, 6 of diphtheria, 33 of scarlatina, and 68 of measles.

Paisley Infirmary.

Dr. Fraser, senior physician to the infirmary, has forwarded a letter to the president of that institution, stating that a gentleman, who wished to remain unknown, had intimated his intention of giving £1000 towards the extension of the institution.

Edinburgh, March 10th.

DUBLIN.

(FROM OUR OWN CORRESPONDENT.)

Royal College of Surgeons in Ireland.

ON Saturday last the President, Mr. H. Gray Croly, J.P., entertained at a banquet his Excellency the Lord Lieutenant and a large number of distinguished guests. The entertainment was a very brilliant one, and his Excellency's speech in response to the toast of his health was well received by those present. An interesting feature in connexion with the table decorations was a valuable collection of silver cups &c. won by Mr. Croly's horses at various exhibitions. General Viscount Wolseley, speaking on behalf of the Army, said that the president, in proposing the toast, had drawn some distinction in his remarks between the combatants and non-combatants of the army. That was a distinction unknown in the army, for they looked upon the doctors as the most valuable members of their profession. The members of the army owed a deep debt of gratitude to the members of the medical and surgical profession, not merely because some of them owed to them the fact that they were alive that day—he himself was one of these,—but because they had done so much for the army in times of peace. It was a well-known fact that it was owing to the members of the medical profession the question of the housing of the soldiers had come to be considered. The barracks in the United Kingdom had been a disgrace to civilisation and to the British Government, and he was glad that this reform had been brought about, not by coercing or bringing great pressure to bear upon the Government, but by the outspoken manner in which the question had been treated by the medical officers of the army. When the soldiers were better housed than they are now, and in a manner that becomes the great nation which has the privilege of paying for those houses, it would be a great satisfaction to men like himself that in bringing about this state of things they were largely indebted to the profession which was so well represented. He thanked them most cordially for the army, and he begged to include in his thanks the medical officers of the profession to which he had the honour to belong.

Death of Mr. Henry J. Gogarty, F.R.C.S.I.

This gentleman died on Saturday last at his residence, 6, Rutland-square, Dublin, after a few hours' illness. He had been attending patients on the day he died, and on his return home in the evening was seized with the attack which resulted fatally very shortly afterwards. Mr. Gogarty was about fifty-four years of age, and leaves a widow and four children to mourn his untimely decease.

Rotunda Lying-in Hospital.

A considerable amount of money being urgently required for the purpose of carrying out certain necessary alterations and improvements in this institution, it has been arranged by a committee to hold a bazaar and kuklos this week, which will last four days. As almost all the counties will be represented, and as substantial help has been promised from many influential friends, it is expected that a very large amount will be obtained for a thoroughly deserving charity.

Molluscum Contagiosum.

At a meeting of the Medical Section of the Royal Academy of Medicine last week Dr. Joseph O'Carroll exhibited a patient suffering from a rather rare malady—viz., molluscum contagiosum, the mycosis fungoides of M. Alibert. The patient, a young man about twenty, a hairdresser's assistant, showed an eruption of small tubercles on the pubes and scrotum. Each elevated spot was slightly umbilicated, and on pressure exuded a whitish fluid from the apex. The disease was of three months' duration, and has not spread.

An Irish Journal of Sanitary Science.

The first number of a new monthly journal, the *Health Record*, is published to-day, and the publication has been undertaken to assist in promoting the all-important questions relating to sanitation. The present number contains articles by Sir Charles Cameron, Dr. Cosgrave and Mr. Edgar Flinn, and others, notably one by Mr. W. Kaye Parry, on a very important subject—viz., "On Sanitary Defects in Tenement Dwellings." The editor is Mr. Edgar M.R.C.S.I., &c., Flinn of Kingstown, who has had considerable experience in sanitary subjects.

Dublin Sanitary Association.

The annual general meeting of this Association will be held on Thursday, the 12th inst., when the report for the past year will be presented, and the President, Mr. F. W. Pim, will read an address entitled "A Sketch of Sanitary Progress in Dublin."

North Infirmary, Cork.

A debt of £900 has been incurred, and the committee have issued an appeal for funds; if this is not responded to, a reduction of the number of beds by one-half will be necessitated. As the hospital is an excellent one and managed with due economy, it is to be hoped that the necessary funds may be forthcoming, and that the committee may be speedily relieved from their financial embarrassment.

Waterworks for Mitchelstown.

A scheme has been proposed for the introduction of a proper water-supply for Mitchelstown, county Cork. The water can be obtained two miles outside the town at an estimated cost of £4849, which will include the erection of twelve public fountains and twenty hydrants; and as the inspector of the Local Government Board has reported favourably of the scheme, the matter will be accomplished without much delay.

Control of Lunatic Asylums.

The grand jury of county Sligo have adopted a resolution,

to the effect that as they learn that the governors of lunatic asylums as representatives of cesspayers have not only no voice in preparing the plans for any addition to or alteration of the structure of their asylum, but that they are not entrusted with the duty of even appointing a clerk of works to superintend the execution of the work, they are strongly of opinion that the law, as it at present exists, requires to be amended. Copies of the resolution have been forwarded to the Chief Secretary and the Lord Lieutenant.

March 10th.

PARIS.

(FROM OUR OWN CORRESPONDENTS.)

The Rôle of the Optician.

THE legal status of the optician is in France, as elsewhere, a somewhat anomalous one. In this country, so long as the functions of this craftsman are limited to determining for a customer the kind of glasses necessary to correct errors of refraction, no charge of illegally practising the healing art can be preferred against him. But a recent judgment delivered by the Correctional Tribunal of Havre declares illegal the giving by an optician pathological information on the state of the eyesight, and the prescribing for any visual trouble a combination of lenses. In other words, the optician is free to pose as a physiologist, but he is debarred from correcting any deviations from normal vision which he may discover in a given case. This is refining with a vengeance, and I do not envy the judge who may be called upon to settle a controversy of this kind.

Prognosis of Syphilitic Pseudo-paralysis.

The late M. Parrot, whose little patients were drawn from a class in which *la misère physiologique* was the rule, appears probably for this very reason to have taken too gloomy a view of the prospects of cure in the disease which he christened as above. At the last meeting of the Société Médicale des Hôpitaux three authorities on pediatrics enunciated the opinion that, provided the hygienic surroundings of the little sufferer be favourable, the chances of complete recovery are great. M. Comby related the case of an infant of six weeks who was brought to him with his body covered with characteristic syphilitic stigmata, and whose right arm was completely powerless, the upper extremity of the radius being swollen and painful. The mother, who enjoyed good health, had been *enceinte* ten times, the first child, born free from syphilitic taint, together with the subject of this communication, being the only survivors, all the other children having been stillborn before term. The father is syphilitic. The infant in question was treated by daily inunctions and by sublimate baths (fifteen grains to each bath), with the result that improvement was clearly manifested from the sixth day, and recovery was complete on the fifteenth. M. Cadet de Gassicourt, physician to the Hôpital Trousseau (for children), opines that one reason for the greater frequency of cures nowadays lies in the earlier recognition of the nature of the affection. He has, moreover, seen the disease undergo in one instance a spontaneous cure, the paresis transferring itself, however, from one member to its fellow. M. Sevestre, also of the Hôpital Trousseau, while concurring with the views of the previous speakers, warns against reliance being placed, for diagnostic purposes, on the presence of syphilides, which are more commonly conspicuous by their absence. He also protests against the employment of the word "paralysis" to designate the affection, the loss of power being analogous to the weakness found in ordinary fractures. M. de Gassicourt further criticised the treatment applied by M. Comby, and stated that he had always found inunctions sufficient, without mercurial baths, which were useful only when cutaneous excoriations were present.

Thoracoplasty: a New Method

At the last meeting of the Académie de Médecine, M. Quénu described a new proceeding for closing a pleural fistula, the relic of empyema. The principle of the operation consists in the resection of small fragments of each extremity of several ribs, so that the intervening segment, thus rendered mobile, may recede, and so determine the filling up of the suppurating cavity. In the case upon which the communication of M. Quénu was based the operation was thus conducted:—The patient being anæsthetised, a vertical incision 15 centimetres in length was made behind the posterior axillary fold, against the axillary border of the scapula. The incision was then carried between, without greatly involving, the fibres of the latissimus dorsi, and the serratus magnus was incised transversely. The ribs exposed were approximated, and about two centimetres of seven (the fourth to the tenth inclusive) excised by means of Farabeuf's costotome, thus laying bare the thickened pleura. Anteriorly, a corresponding vertical incision was made posterior to the nipple line. Some fibres of the pectoral muscles being drawn aside, the ribs, with three digitations of the serratus magnus, were exposed, and a width of from one centimetre and a half to two centimetres was resected from six ribs. The mobility of the bony parietes separating the two vertical incisions having been proved by the effects of pressure with the hand, the fistula was united to the anterior incision by a transverse cut, the corresponding rib was excised in its entirety, and the pleural cavity opened. This cavity was then scraped with a curette and swabbed with a solution of zinc chloride. The edges of the two vertical wounds were accurately brought together with sutures, a large drainage-tube being inserted into the most dependent part of the posterior one. The transverse incision was likewise sutured, a large drainage-tube being passed through it into the pleural cavity. A dry iodoform dressing completed this ingeniously contrived operation. The patient recovered completely in forty days.

Hypnotic Experiments and the Law.

Does the speculative or speculating layman who indulges in experiments in hypnotism expose himself to the risk of a prosecution for illegally practising medicine? This question was discussed in solemn conclave by the Paris Bar on Monday last, and the answer was in the affirmative. These psychological exhibitions are very popular at the numerous fairs held in the neighbourhood of this capital. It remains to be seen if the authorities, armed by the collective opinion of Messieurs les Avocats, will make an attempt to put a stop to a practice not devoid of social dangers.

Life Assurance and the "Secret Professionnel."

Autre pays, autres mœurs! In France the medical man cannot be compelled to divulge, even in a court of law, the nature of the disease for which he has treated a patient. Should he do so without the consent of his patient (or his representatives after death) he incurs the risk of being prosecuted for damages. The following legal pronouncement will give your readers some idea of the protection extended to French practitioners in this respect. Our French *confrère* is a real father confessor. On Feb. 4th the Paris Court of Appeal confirmed a verdict pronounced by the Tribunal of Commerce against an assurance company which had refused to pay the insurance money due to the widow of a policy-holder on the ground of the non-production of a medical certificate stating the nature and duration of the malady to which the deceased had succumbed. The widow could not produce the document in question for the simple reason that the medical attendant had, for reasons best known to himself, declined to indite it. The Tribunal of Commerce ruled that the doctor, bound by the rules of professional secrecy, is not compelled to furnish a death certificate, it being left to his sole judgment to decide if information revealed to him by his patient comes within the limits of *le secret professionnel*.

Paris, March 10th.

BERLIN.

(FROM OUR OWN CORRESPONDENT.)

A Collection of Clinical and Pathological Reports on Koch's Method.

DR. VON GOSSLER, Prussian Minister of Religion, Education, and Medical Affairs, ordered last December that the heads of the Prussian university clinics and policlinics in which Koch's remedy for tuberculosis had been used should report their experience to him. The heads of the pathological institutes were also requested to report everything of importance observed by them at necropsies, or otherwise bearing upon Koch's method. Besides the heads of the university clinics, Professor Fraentzel, of the Charité, who was the first to try Koch's method in consumptive cases, and Dr. Paul Guttmann and

Professor Sonnenberg of the Moabit Hospital, who has practised the method under Koch's superintendence, were requested to report their experience. Fifty-five reports were sent in, and have been edited by Professor Guttstadt and published by Springer of Berlin in a volume entitled, "The Efficacy of Koch's Remedy for Tuberculosis." With very few exceptions the reports confine themselves to the time before Jan. 1st, but the results of the first half of that month are once or twice alluded to. Dr. Guttstadt has extracted the most important items from the reports, and summarises them in an appendix. In the hospitals to which the reports refer 2172 persons were treated with tuberculin during the time in question, and they received more than 17,500 injections in all. The greatest number of injections received by any one patient was 54; the greatest total quantity 3·826 grammes. The diseases treated were tuberculosis of the lungs, the larynx, the peritoneum, the intestine, the cerebral meninges, the kidneys, the bladder, the lymphatic glands, the soft parts, and the bones, lupus, leprosy, pernicious anæmia, pleurisy, and corneitis. The pulmonary patients are divided into three groups—those with incipient phthisis, those with moderately advanced phthisis, and those with very far advanced phthisis with cavities. Of those of the first class, 242 were treated with tuberculin; 9 were cured, 72 considerably improved, and 59 improved. Of the second class, 444 were treated; 1 was cured, and 68 more or less improved. Of the third, 230 were treated; 7 were considerably improved, 31 improved, and 30 died. Many of these patients had laryngeal phthisis too. Of 18 patients who had laryngeal phthisis alone, 1 was cured, 2 were considerably improved, and 10 in a less degree. The number of lupus patients treated was 188, of whom 5 were cured, 78 considerably and 84 less decidedly improved. The book contains reports of necropsies from the pathological institutes of Berlin, Bonn, Breslau, Göttingen, Halle, Königsberg, and Marburg.

Dr. Wilhelm Stricker.

Dr. Wilhelm Stricker of Frankfort-on-the-Maine, a literary physician of mark, died last week. The themes of his numerous writings are the History of Medicine in Frankfort; the lives of Soemmering, Neef, and Stiebel, Itaar, and other miracle doctors; Ettner's medical novels; the Care of the Sick in the Wars of the Past; Taylor, Ludwig Hoernigk, Burggrave, Haller, Zimmermann; the mortality of children, suicide, marriages between blood relations, medical statistics, hermaphroditism, hairy men, small-pox, vaccination, labial cancer, the effects of lightning on the human organism, the history of his native city of Frankfort, the life of its greatest son, Goethe, &c. He was born in 1816, studied at Dresden, Göttingen, and Berlin, travelled for several years in Italy, established himself as a medical practitioner in Frankfort in 1844, and spent the rest of his life there.

Berlin, March 10th.

VIENNA.

(FROM OUR OWN CORRESPONDENT.)

Koch's Treatment.

THE trials of Koch's liquid in the treatment of tuberculosis have been brought to an end here in the course of the last two or three weeks, and "Kochin" is now only rarely administered at the Vienna hospitals, and the official report on the treatment will shortly be published. At the last meeting of the Vienna Society of Physicians, Professor Billroth presented his case of actinomycosis, which had been treated with Koch's liquid and which has been mentioned in previous letters to THE LANCET. It was the case of a labourer twenty-six years old, who had been at first admitted to the wards of Professor Nothnagel on account of some abdominal disease, combined with vesical and rectal symptoms. By the examination of the urine the presence of actinomycosis could be detected, and the patient was sent to the wards of Professor Billroth. As there was an extensive infiltration of the abdominal walls, an incision was made on August 2nd, and the actinomycotic tissues were scraped out; by the infiltration extending deeply throughout the abdominal muscles and fascia, a perforation of the bladder was produced. The wound, as well as the vesical fistula, in a short time began to heal; but after some weeks the abdominal walls became infiltrated again, so that a tumour of the dimensions of 16 cm. by 12 cm. by 2½ cm. was found on the left side of the abdomen. Then on Dec. 5th the first injection of Koch's fluid was made, the initial dose being 10 milligrammes, and a considerable local and general reaction resulted from it. The tumour, at first exceedingly hard, became softer and decreased in size after repeated injections of the fluid, so that after fifteen injections the infiltration had perfectly disappeared in the first days of February. The dose had been increased to 250 milligrammes. At the present time, the patient having been under observation for four weeks in the wards, no relapse has occurred, and he seems to be healed. At the last meeting of the Vienna Dermatological Society Dr. von Hebra demonstrated three of his cases of lupus treated by Koch's fluid. One of them was a young man in whom the first injection had been made in Vienna on Nov. 21st. He then showed a very remarkable reaction, both local and general, after the application of 3 milligrammes. This reaction diminished with each later injection, and from the time when 10 milligrammes were injected no reaction at all could be observed. At present a dose of 80 milligrammes was used without any effect. The lupus efflorescences themselves have scarcely diminished under the treatment. Before the treatment both hands were affected; there was along the dorsum of the fingers a lupus infiltration raised a quarter of an inch above the healthy skin; that had not disappeared. The second patient, a boy of seventeen years, with a lupus vulgaris occupying the entire right cheek, suffered very much in the course of the treatment from pains in his bowels, dyspepsia, and diarrhœa, so that several times the treatment had to be stopped for a couple of days. The lupus had decreased in size, but a considerable part of it remained unchanged, and at the same time new lupus nodules made their appearance on the previous healthy chin, and the enlargement of them could not be checked by the injections; in this patient also a dose of 80 milligrammes had been used after twenty-seven injections. The third patient, a very pale lad twelve years old, with a lupus patch of the size of the bowl of a tablespoon on the plantar surface of his left foot, and one on the inner side of his left knee, was also suffering very much from affections of the bowels in consequence of the injections. After the first injections in this patient his lymphatic glands (axillary, inguinal) became tumefied to the size of walnuts, and very painful, but never suppurated. With every increase of the dose he suffered from asthmatic fits lasting from three to seven hours. It was impossible to increase the dose as quickly as in the other patients, the highest dose used till now being 25 milligrammes. The reaction was very slight, and the lupus of the plantar pedis increased in size, and new nodules appeared in the neighbourhood of the lupous patch of the knee. Dr. Hebra also mentioned a case in private practice—that of a young lady with multilocular lupus vulgaris, in whom the doses could be rapidly increased up to 70 milligrammes after ten injections without any effect whatever. In opposition to Koch's statement, that the diminishing of the reaction is not due to accommodation but to the diminishing of the quantity of tuberculous tissues in the body, Dr. Hebra found that, although this diminution had been comparatively small, the reaction was nevertheless less marked even when eighty times larger doses had been used.

The Cantharidin Treatment.

Experiments are now made here with the injections of cantharidin in cases of laryngeal tuberculosis and other tuberculous affections, at the General Hospital, as well as at some private institutions, and, as I am informed, the results obtained till now seem to be favourable. On the other side a series of other irritant substances obtained, including even jequirity, have been also experimented with for the treatment of tuberculosis since November last, but the results obtained are not yet published.

Vienna, March 11th.

NEW ZEALAND.

(FROM OUR OWN CORRESPONDENT.)

The late Sir William Fitzherbert, K.C.M.G., M.D.

THERE are few of the early pioneers of the colony now left to us, and of these sparse survivors the most distinguished has passed away. It is not generally known—at any rate

in the colony, for he never practised his profession—that the late Sir William Fitzherbert was a member of the medical profession, having graduated in Medicine and Surgery in 1840. It is therefore not as a medical man that Sir William Fitzherbert's name will be handed down in the pages of the history of New Zealand. He, nevertheless, took a deep interest in the advancement of science generally. He was a staunch supporter of all movements pertaining to the efficient management of local medical and sanitary offices. Born in England and educated at the University of Cambridge, where he obtained a Fellowship at Queen's College, the deceased had for a great many years been identified with the interests of the colony from a political and social point of view. Mr. Fitzherbert emigrated to New Zealand in 1842. He soon gathered round him men of light and leading. Bishop Selwyn, although by no means always agreeing with Sir William Fitzherbert's conduct of native affairs, had the highest opinion of his capacity. The Maoris, in the early days, had great confidence in him, and often undertook long journeys to seek his advice. During the Maori war—a critical time in the history of the colony—Mr. Fitzherbert was Sir George Grey's ablest counsellor, and, together with the late Dr. Featherstone and Sir William Fox, constituted the celebrated "three F.'s." The early settlers had few of the advantages which we now possess. The chief event in those days was the arrival of the English mail, and greedily indeed the news it brought was devoured by all, and by none perhaps more so than by a gentleman of culture and refinement like Sir William Fitzherbert. How different is it now when events occurring in Europe are flashed to the Britain of the South in a few hours. In 1864 Sir William Fitzherbert was appointed colonial treasurer, but resigned that office the following year. In 1866, however, he was reappointed to the same office. He came to England as Agent-General in 1867, and right well were his duties undertaken. But it is in the colony that his power of work and versatile genius are best known; for his life has been devoted to the development of her interests. After his return to the colony from England in 1876 he became Speaker of the House of Representatives, and in 1879 he was advanced to the position of Speaker of the Legislative Council. In 1877 he was made a Knight Commander of St. Michael and St. George, having been previously, in 1872, created a Commander of the same order. Sir William Fitzherbert in 1887 represented New Zealand as delegate at the Colonial Conference held in that year in London. This was his last visit to the old country. In politics he favoured the Whig party. Few colonial politicians have done more to advance the mutual interests of the Maori and English races, and it is to men of the intellectual calibre of Sir William Fitzherbert that all the credit is due of making the colony what it now is. No natives of any colony have ever been better considered by the English-speaking race than the Maoris have been. Their interests from the first have always been fairly weighed. It was the knowledge of this fact that really saved the early English settlers at the Hutt, Wellington, when the celebrated chief "Te Puni" stayed the hands of the natives under him and prevented the contemplated massacre. The deceased "roughed it" in these early days, and he paved the way nobly and well for his successors. He has clearly shown that he was a staunch friend, a genial companion, and a most able adviser. Few young men arriving from home and armed with a letter of introduction to Sir William Fitzherbert failed to be received with the greatest hospitality and to get the best of advice for their future career in the colony.

AUSTRALIA.

(FROM OUR OWN CORRESPONDENT.)

Climate and Temperature.

THE climatic conditions of the world appear to be topsy-turvy. While you in Europe are being scourged by weather so severe that even the "oldest inhabitant" remembers not such another winter, we here are passing through quite a cold summer. Last year at this time a heat wave was passing across this continent, and for weeks the temperature was between 90° and 110° F. in the shade; this year the weather is wintry, and up to the present there have been only three or four hot days.

Typhoid Fever in Melbourne.

In consequence of this cool weather, the annual typhoid fever outbreak which usually occurs in Melbourne about this time has not been so virulent. What may happen if a heat wave similar to that of last year visits the colony it is impossible to forecast. All the elements for the generation and spread of typhoid fever are present in Melbourne and its suburbs. "Melbourne," its inhabitants boast, "is a marvellous city," and so it is in many respects. Outwardly it has put on fine raiment, but this fine raiment covers a multitude of impurities. Here is a city picturesquely situated—having fine wide streets, splendid public buildings, spacious parks, a most complete cable tramway system, and no beggars, yet under all this a system of sanitation that even a Kalmuck Tartar would blush at. The river Yarra, on which the city is built, is from Melbourne to the sea one huge cesspool. In comparison with it the Liffey at Dublin is a crystal stream. When stirred by the screws of the numerous steamers that throng its banks, it is said to emit no less than sixteen distinct odours! In his address to the Victorian Branch of the British Medical Association the retiring president, Dr. Le Fevre, touched on this matter, and his words are worth quoting:—"A matter requiring immediate consideration, and one to which he had frequently called attention in Parliament, was that of providing for the prevention of the pollution of our rivers. The present condition of our streams was simply disgraceful, as well as disgusting. There was probably no other country in the world where such a state of things was allowed to prevail as that to be witnessed in and about Melbourne. The Government was spending thousands of pounds on our defences, while at the same time no adequate machinery was provided for coping with an insidious enemy, which was continually lurking in our midst. Typhoid fever had been extending year by year, and would continue to extend until they adopted some measures of sanitary reform which would bring about better results than any we have yet achieved. In fact, unless this were done, we feel quite certain there would be such an epidemic one of these days as will arouse us to a sense of our duty." Open-pan earth closets are generally in use, and it not infrequently happens that the nightmen deposit their loads of night-soil surreptitiously on or near the main thoroughfares, and thereby save themselves the journey to the proper depôts some miles out of town. Moreover, at the last meeting of the Central Board of Health for Victoria Dr. Gresswell, the Board's medical expert, reported that during his investigations into an outbreak of typhoid fever at one of the suburbs he was astounded to find that the excreta of the typhoid fever patients, instead of being destroyed, were superficially buried in the back yards. Your readers will thus readily understand why typhoid fever and other intestinal diseases are so very rife and so very fatal in the capital of Victoria.

The Melbourne Hospital.

The staff of the Melbourne Hospital have been taken to task very severely quite recently by the city coroner, *apropos* of a death from chloroform in that institution. The patient was an elderly woman seventy years of age, and chloroform was administered by one of the house surgeons for the purpose of incising a carbuncle at the nape of the neck. The doctor averred that "the woman took the anæsthetic well, but that just after taking it she died of suffocation, and the post-mortem examination showed that the glottis was diseased." It seems that another death under chloroform occurred at the same institution a little while ago, and although no one was held to blame, the coroner suggested to the staff the advisability of appointing a teacher of anæsthetics. This the staff have not done, for, in reply to a question asked by the coroner, one of the number stated that the staff, having talked the matter over, had decided that such an addition was quite unnecessary. The coroner thereon intimated to the hospital authorities that they were neglecting their duties to the public and to the students themselves in omitting to teach in a practical manner a most important part of medical practice.

Professor Koch's Remedy.

Dr. Koch and his remedy, after monopolising the cablegrams for many weeks, have been dropped entirely by the newspapers, but the interest is certain to be revived when the doctors who are hurrying out from Berlin with supplies of "parataloid" arrive and give demonstrations.

Melbourne, Jan. 27th

Obituary.

JOHN ALLAN, M.D., M.R.C.P. LOND.

BY the death of Dr. Allan, of Milner-square, Islington, the profession loses a type of a class of practitioner the leaven of whose influence is always working for our good, and it behoves us to note such men with reverence and honour as one by one they pass away. A fine specimen of a true Scot, Dr. Allan was nevertheless born in the West Indies, and he passed little of his lifetime in Scotland. His parents and an uncle, who was a medical man, were residing in Antigua during the early part of the century, and there on Oct. 10th, 1815, the subject of our memoir was born. He lost both father and uncle during his early childhood, and was then brought by his mother to Europe; his school days were passed chiefly in France. He commenced his medical education in Paris, and was wont to relate many interesting anecdotes of the medical and surgical worthies of that day. After a time he went to Edinburgh, where, in 1836, he passed the College of Surgeons. In 1837 he graduated at St. Andrews, and subsequently, in 1860, he became a Member of the Royal College of Physicians of London. About fifty-two years ago he commenced practice in Islington, and his sterling character, kind-heartedness, and unsparing self-denial soon won for him a wide circle of attached patients and friends. During his early days he held the post of physician to the Islington Dispensary. He had also been for many years physician to the Church Missionary Children's Home and to the Church Missionary College. One of his marked characteristics was his stern sense of professional right and wrong, but his uncompromising mode of denouncing any deviation from his ideal was sometimes misunderstood. Among his friends, however, who knew him well, apart from his nobler qualities, his ready humour, his fund of anecdote, and that cheery eye of his will not soon be forgotten. His health had been failing for some time, although he continued to practise to within a few weeks of the end. He died of disease of the heart on the morning of March 2nd, at his residence in Milner-square, leaving a widow and three daughters.

FREDERICK WORTHINGTON, M.R.C.S. ENG.

Although it is more than eleven years since Mr. Frederick Worthington left Liverpool and retired, after upwards of fifty years' practice, the tidings of his death were received there with much sorrow by his professional brethren and his numerous friends. The son of a local surgeon, he became a student of the infirmary long before it acquired its royal title, and before the first local School of Medicine was founded, though lectures on anatomy and other medical subjects were given. He subsequently studied in Paris, at a time when the late Philip Ricord was beginning to acquire fame, and learned what must have been of much value to him subsequently. Returning to Liverpool, he was in 1832 elected surgeon to the newly completed lock hospital in conjunction with the late Mr. Simon, and held that office until his resignation in 1873, when he was elected consulting surgeon, and continued in private practice until towards the close of 1879, when he left Liverpool for Enfield. He had very fair health until recently, and at the time of his death was in his eighty-second year. Many former students will remember his quaint anecdotes of the old treatment of venereal diseases which he used to detail—mercury given for gonorrhœa, even to the most profuse salivation; and the inoculation experiments of Ricord, which were also practised at Liverpool Lock Hospital. He also gave vivid descriptions of the nursing of his student days, which amply confirmed the descriptions of the immortal Sarey Gamp and Betsy Prig. Mr. Worthington had a very large practice, both special and general, for many years, among his patients being many leading citizens. He leaves a widow, three daughters, and one son, who is a member of the medical profession.

ROYAL COLLEGE OF SURGEONS OF ENGLAND.

AT an ordinary meeting of the Council held on Thursday, the 12th inst., the minutes of the meeting of the 12th of February were read and confirmed.

The report of the Committee on the Extension of the College Premises was approved, adopted, and entered on the minutes. The report set out that, plans having been prepared by Mr. Salter for altering and enlarging the College forecourt, and estimates for carrying out such plans having been obtained, the committee recommend the Council to sanction an expenditure of £1894 for this purpose.

A report was read from the committee on the form of the report of the Council to the annual meeting of the Fellows and Members of the College. The committee are of opinion that it is desirable that the report should be written in narrative form and should record the work done by the College in its various departments during the past Collegiate year: that it should contain contributions from the chief officers of the various departments on the following subjects—viz.: Museum, Library, Laboratories (at the College and at the Examination Hall), Examinations, Finance, Lectures, Obituary Notices, College Prizes and Honorary Elections, and other subjects of interest contained in the minutes of Council; and that the report be edited by a committee to be appointed by the Council.

Mr. T. Bryant, President of the College, was elected a representative of the College on the General Medical Council in the vacancy occasioned by the death of Mr. John Marshall.

The report from the Committee of Management, with regard to the arrangement of studies and of examinations during the extended curriculum of five years, was referred to a committee of ten members of the Council, including the President and Vice-Presidents, to report thereon to an extraordinary meeting of the Council.

A letter of the 18th ult. from Dr. Liveing was read reporting the adoption by the Royal College of Physicians on that date of the revised scheme for the reconstitution of the University of London.

A letter of the 17th ult. was read, addressed to the President, from Mr. Hutchinson, offering to present to the College his collection of clinical and pathological drawings, on condition that the College will make them useful by displaying them in well-arranged classification in such a manner that they may form the nucleus of a far more nearly complete series. This letter was referred to the Committee on the Extension of the College Premises to report thereon to the Council.

The President reported a correspondence between himself and the President of the Royal College of Physicians in reference to the grievances of Army Medical Officers.

In pursuance of his notice on the 12th ult., Mr. T. Smith proposed that the proceedings of the Council in relation to the scheme for the reconstitution of the University of London be placed before a meeting of the Fellows and Members summoned for the purpose, and that the date of the meeting be determined by the President and Vice-Presidents. This was seconded by Sir W. S. Savory, and carried by a majority of 16 to 5. It was also agreed, on the motion of the Vice-Presidents, that, prior to the meeting, as soon as the date of the meeting has been fixed, a copy of the scheme for the reconstitution of the University of London be sent to each Fellow of the College, and to any Member who may apply for the same.

Medical News.

ROYAL COLLEGE OF SURGEONS OF ENGLAND.—The following gentleman, having previously passed the necessary examinations, and having now attained the legal age (twenty-five years), was, at the ordinary meeting of the Council on the 12th inst., admitted a Fellow of the College:

Caddy, Arnold, L.R.C.P. Lond., of St. George's Hospital. Diploma of Member dated August 4th, 1887.

MEDICAL MAGISTRATE. — Dr. Alfred Sutton, Government medical officer and medical officer of health at Bernleigh, Queensland, has been appointed a Justice of the Peace for the colony of Queensland.

FIRE AT A HOSPITAL.—On Sunday last a fire broke out in the Bowdon branch of the Manchester Hospital for Consumption. Fortunately, two only of the seventeen beds were at the time occupied, the remainder of the patients being in the day-room. Though much damage was done to the building, the flames were eventually subdued without loss of life.

EPSOM COLLEGE.—A. C. Knight, of this school (sixth form), has just been elected to an open classical scholarship of £80 at Queen's College, Oxford.

ST. BARTHOLOMEW'S HOSPITAL.—At a meeting of the Commissioners of Sewers on Tuesday a motion calling attention to the alleged insanitary condition of this hospital, and recommending that the matter be referred to the Sanitary Committee for immediate consideration and report, was rejected.

ROYAL HOSPITAL FOR CHILDREN AND WOMEN, WATERLOO-ROAD.—The annual meeting of this institution was held at the Mansion House last week, the Lord Mayor presiding. The annual report stated that the income had exceeded that of the previous year by £604, and of that amount £300 had been added to the extension fund. The in-patients numbered 509 and the out-patients 6710; there were 27,154 attendances and 310 dental cases. His lordship, in reviewing the history of the hospital, said it had a great claim upon the City of London, as it was founded within the City boundary in 1816 by Dr. Bunnell Davis, and it well deserved liberal financial support. Annual subscriptions were announced amounting to ten guineas, and donations to £270.

THE DENTAL HOSPITAL OF LONDON.—The twenty-third annual meeting of this institution was held this week at the hospital, Leicester-square, under the presidency of Sir Edwin Saunders. In the report, which was unanimously adopted, the managing committee congratulated the governors on the continued success of the institution; also on the great benefits which the hospital continues to afford to the suffering poor, 48,764 cases having been treated during the year 1890, a large number of them painlessly (under anæsthetics); being 26,770 in excess of the number treated in 1874, when the hospital was removed to its present site. Unfortunately, there was £2500 remaining of the mortgage debt on the hospital incurred for the necessary extension of the hospital. The managing committee had pleasure in announcing the continued increase in annual subscription.

PRESENTATIONS.—Mr. J. Hay Caird, L.R.C.P., L.R.C.S. Edin., parochial medical officer for Lochgoilhead district, received on the 28th ult., at the close of the second course of Ambulance Lectures under the St. George's Rules, Glasgow, a handsome presentation from the members of his class in recognition of his zeal and success as a lecturer.—The members (*employés* at the Lincoln Railway station) of the Great Northern Railway Ambulance Class have presented Dr. Lowe with a silver card salver, in acknowledgment and appreciation of his lectures to them on "First Aid."—Mr. Arthur Cox, M.R.C.S., of Long Buckby, Rugby, has been presented with a cheque for twenty guineas, a copy of Fagge's "Principles of Medicine," and an illuminated address (framed), by the inhabitants of that town and neighbourhood, in testimony of his unvarying kindness and attention in the discharge of his professional duties to all classes during his practice in the district, covering a period of thirty-two years.

OUTBREAK OF SMALL-POX AT SEA.—The four-masted barque *Kelton*, 1776 tons, was detained in Melbourne by the authorities on account of an outbreak of small-pox on board. The *Melbourne Argus* gives a circumstantial account of the "terrible experiences," which have been undergone on board that unfortunate vessel. The vessel sailed from Glasgow for Rio Janeiro with a cargo of sewage pipes. Six weeks after leaving Rio a man named Duncan McColl, twenty-seven years of age, was taken ill of small-pox. No epidemic had existed at Rio, and the crew had been ashore at that port only a few hours. Some days after McColl's death others were attacked, and ultimately the whole of the crew were seized. Captain Young himself caught the disease, and was unconscious for about twenty days. The ship was well supplied with medicines, spirits, and all requisites for the sick. All on board had been vaccinated in early childhood, the captain amongst the number. At the quarantine stations the patients were attended by Dr. De Burgh Griffith and two nurses, sent from Melbourne, with the greatest possible kindness. The chief officer and one of the crew were not sufficiently recovered to join the ship on its departure from Melbourne.

SUPERANNUATION GRANTS.—Mr. T. J. Cottle, M.R.C.S., lately district medical officer of the Cheltenham Union, and Mr. H. V. Ellis, M.B., C.M. Aberd., lately medical officer for the western district and workhouse of the Gower Union, have been granted allowances of £100 and £23 3*s.* per annum respectively.

METROPOLITAN ASYLUMS BOARD.

Return of Patients remaining in the several Fever Hospitals of the Board at midnight on March 10th, 1891.

Hospital.	Beds occupied.						Total accommodation.
	Scarlet fever.	Diphtheria.	Typhus fever.	Enteric fever.	Other diseases.	Total.	
Eastern Hospital	240	54	..	42	2	338	442
North-Western Hospital	193	37	..	8	.	238	443
Western ,,	154	19	..	13	2	188	226
South-Western ,,	147	23	..	11	..	181	340
South-Eastern ,,	168	20	..	24	3*	215	462
Northern ,,	223	19	..	15	..	257	480
Totals	1125	172	—	113	7	1417	2392

* Infant and mother.

MEDICAL NOTES IN PARLIAMENT.

Lodging-house-keepers' Registration.

ON March 5th, in the House of Commons, the Chancellor of the Exchequer, in reply to Lord H. Bruce, said that it would be impossible to make any concession now in favour of those who, under these circumstances, failed to comply with the conditions demanded by the law. But, of course, they will be able to secure the benefits of the lower charge in future by registering themselves each year within the proper time.

The Royal Commission on Vaccination.

Mr. Ritchie will propose the appointment of a member of the Royal Commission to take the place of Mr Bradlaugh.—In reply to Mr. Channing, Mr. Ritchie stated that he was aware that Mr. Bradlaugh was accepted as a representative of those who were opposed to vaccination, and felt bound in making the selection to give weight to that consideration.

Fever in India.

On Monday, the 9th, in reply to Mr. Conybeare, Sir James Fergusson said the statistics of deaths in India, which will be found in the statistical abstract, do not show a progressive increase in each year in the total number of deaths nor in the number of deaths from fever, and the latter depend in great measure upon the season.

Leprosy and the Price of Salt in India.

In answer to Mr. Conybeare, Sir J. Fergusson said: In the Presidency of Madras the price of salt has risen from 9 annas and 8 annas per maund in 1800 to 2 r. 11 a. in 1890. The Secretary of State cannot give information for the earlier years of the century, but if the hon. member wishes it, he can place at his disposal statistics going back to 1841. There is no certain information as to the increase of leprosy. Lepers were counted at the census of 1881, but the results of the census taken last month are not known. The Commission now sitting will doubtless consider the question of the connexion which has been stated to exist between insufficient salt and the prevalence of leprosy.

Excessive Drinking at Public-houses.

In answer to Mr. Rowntree, Mr. Matthews said: The Commissioner of Police assures me that every effort was made for the efficient enforcement of the law, and the figures quoted show that the police are not inactive. But the hon. member is doubtless aware that there are great difficulties of proof in cases where publicans are charged with permitting drunkenness, and I do not think those difficulties will be removed by alteration of the law.

Interment of Stillbirths.

On Thursday, the 12th inst., Dr. Cameron asked the President of the Local Government Board whether his attention had been called to the statement of Dr. Rentoul to the effect that in the year 1889 6321 stillborn children were interred in seventy-one burial board cemeteries; that there are 1100 board cemeteries in England; and that the larger number of such interments take place in parish churchyards, and asked for returns on the subject.—Mr. Ritchie: My attention had not previously been called to the statements which have been published by Dr. Rentoul. The births of stillborn children are not registered by the registrars of births and deaths, and consequently no returns of these births are made to the Registrar-General. I am therefore not in a position to give a return of the number of infants interred as stillborn in 1890, nor to state what proportion of these infants were born respectively in and out of wedlock.

Vaccination.

Mr. Channing asked the President of the Local Government Board whether his attention had been called to the case of Mr. Punshon, of 37, Darwin-street, Old Kent-road, S.E., whose infant child is medically

certified to have died on Feb. 26th from blood poisoning, from vaccination performed by a public vaccinator; and whether he had directed an inquiry to be made into this case; if so, with what result; if not, whether it was his intention to direct that such inquiry be held by his department.—Mr. Ritchie: I have received a copy of the entry in the Register of Deaths in the case of the child referred to. The cause of death as certified by the medical man was vaccinia and pyæmia. The case has been brought under the attention of the Royal Commission on Vaccination; and it is, I understand, to be investigated by one of the medical men employed by the Commission for such inquiries.

Food and Drugs Act.

In reply to Mr. Herbert Gladstone in reference to the case of Police *v.* Cannon, in which the defendant was charged with adulteration under the Food and Drugs Act, and which was dismissed by the magistrates, Mr. Ritchie recapitulated the facts of the case, and said: As regards the question of legislation, I am not prepared to propose that any legal proceedings should be taken under Section 20 of the Sale of Food and Drugs Act, 1875, upon a single unsupported analysis. Section 22 already gives power to the justices before whom any complaint is made under the Act upon the request of either party to cause an analysis to be made by the chemical officers of the Inland Revenue Department of the article of food alleged to be sold in contravention of the Act, and to obtain a certificate as to the result. This power was conferred upon the justices to enable them to obtain an independent analysis whenever the circumstances appear to require it.

THE METROPOLITAN HOSPITALS INQUIRY.

THE Committee of the House of Lords on the Metropolitan Hospitals resumed their inquiry on Monday. Earl Sandhurst presided.

The Admission of Nurses to University College Hospital.

Mrs. Alison appeared before the Committee to give evidence bearing on the statement of Sister Cecilia, that in admitting nurses to the staff of University College Hospital no preference was given on account of religious profession. In October, 1883, she applied to be taken as a probationer, and she was objected to on the ground of being a Nonconformist.—By the Earl of Kimberley: She saw the head of the nursing department, and she had been told that the lady was Sister Cecilia. She received no answer in writing. All that occurred was a personal interview. The lady told her that she, being a Nonconformist, was ineligible. No other question was discussed. She did not make any representation to the authorities of the hospital.—By Lord Cathcart: The lady she saw was dressed in the uniform of the All Saints' community. Witness was accompanied by her aunt, Miss Body, who was at that time a sister of All Saints' Community.—By Lord Thring: She did not think she could identify the lady.—By the Chairman: According to her experience the statement made to the Committee by Sister Cecilia was a misrepresentation. She expressed no opinion as to the justice of the rule. She merely wished to contradict the statement which had been made to the Committee.

At a later stage in the proceedings, the Chairman read the following letter which the Clerk of the Committee had received from the Sister Cecilia—viz.: "Dear Sir,—In reply to your letter, I beg to state that on April 6th, 1889, the Mother Superior of All Saints decided that it would be well to admit nurses of all creeds to the paid staff of the hospital. Mrs. Alison, of whom I have no recollection, must have applied previously to this decision. Prior to April 6th, 1889, we trained nurses of all creeds, but did not take them on our paid staff."

The Metropolitan Hospital.

Mr. C. H. Byers, examined by the Chairman, said he was secretary to the Metropolitan Hospital. He had been four years in that position, having previously been engaged in business. Until recently the institution was called the Metropolitan Free Hospital. It was started in 1836, originally as a dispensary, by the present chairman, Mr. Joseph Fry. The present buildings were completed in 1885. They cost something like £36,000, and accommodated 160 beds. The sanitary arrangements were thoroughly good. Each ward was isolated. There were two fire hydrants on each floor, and a fire drill was conducted by Messrs. Shand, Mason, and Company, in which all the nurses as well as the porters took part. At the governors' meeting at which the name of the hospital was changed there was only one dissentient. Every accident and urgent case was taken in on its merits irrespective of the social status of the patient, and at the same time every person who came to the hospital was seen for the first time by the doctor on duty, prescribed for and received seven days' medicine. After that certain questions were asked, and it was optional on the part of the patients to answer them. They had a provident department intended for persons living in the hospital district who were unable to pay the usual fees of medical men. Inquiries were made, if necessary, as to the circumstances of those who took advantage of the scheme. It was generally understood that no single person earning more than 21*s.* per week, and no man, wife, and family earning more than 35*s.*, would be allowed to become a member of the provident department. There were ninety medical men in the district, and when the scheme was being arranged they were invited to meet and discuss it. Only seven of the ninety attended the meeting. Undoubtedly the medical men of the district objected at first to the scheme as likely to interfere with their practices, but lately he had heard no complaints from them. The position the committee took up was that while the hospital was conducted on the old lines abuses certainly occurred, and they wished to put a stop to them. The experience they had already obtained had demonstrated that their provident department was the right thing for the hospital, and he thought that the medical men in the district were beginning to see that they had no desire to take money out of their pockets. Members of the provident department were treated as out-patients, or at their own homes, or in the hospital, as the circumstances of their ailments required. The great difficulty under which the scheme laboured was the shifting of the population, but he thought a proper system of collection would overcome that difficulty. He saw no reason why the scheme should not be a great success. The amount received in provident department payments last year was £670, and the previous year £653. The total expenditure of the hospital amounted to £7500 last year. Jews had been very good to the hospital, and when the new buildings were erected they reserved forty of the 160 beds for people of the Jewish faith, and made special arrangements for cooking the food of Jewish patients. Of the seventy-eight beds now in occupation twelve were occupied by Jews. Witness received a salary of £300. His assistant, who acted in his absence, had a salary of £60, with board and lodging. Witness could not suspend a nurse, but could recommend the matron to do so. Undoubtedly complaints had been made by patients as to the food they received, but they had never been of a serious character. Their building being new they had no drainage plan. It seemed desirable to have one, and the matter would be attended to immediately. Three members of the committee of the hospital accompanied the surveyor in his inspection of the drains last autumn. He admitted the desirability of having an inspection by some outside and expert officer. The system of nursing was similar to that in force at University College Hospital. The work was undertaken by contract by the All Saints' Community, Sister Dorothea being the Sister Superior. At present the nursing staff consisted of thirty-two persons—one sister superior, one night superintendent, three ward sisters, twelve nurses, thirteen probationers, and two lady pupils. They actually paid for sixteen nurses, and received an allowance from the board of the other sixteen in the hospital. The net payment for nursing last year amouted to £135. They were quite satisfied with the nursing arrangements, which had been in force for two years. There had been no deaths among the nurses during that period, and no epidemic.—Lord Cathcart: The weak part of your system seems to be that for fourteen hours per day you have in charge only your clerk, with a salary of £60 a year.—Mr. Byers: £60, with board and lodging. Continuing, witness said that from his own knowledge he could say that their nurses were of mixed religions. They were by no means all extreme persons holding very extreme views. They had no students at the hospital.—By the Chairman: They had a deficit last year of £1300, which they hoped to wipe off by appealing to the public. As a matter of fact, they hoped to get rid of it by the usual and inevitable festival dinner. However much members of the committee might object to the festival dinner, they could not do without it. As a rule they derived about £2000 from the festival dinner.

Mr. D. H. Goodsall, for seventeen years on the staff of the hospital, said, in answer to the Chairman, that he regarded the buildings as admirably suited for the purposes of a hospital. They received all serious cases without comment. When a patient had been seven days in the hospital he was told he must either go elsewhere or join the provident scheme. As a rule the member of the provident department paid 2*s.* annually. This income paid the salaries of the medical officers who attended the department and the drug bill. The out-patient department was not so crowded now as when no provident scheme existed. He thoroughly approved of out-patient departments combined, as in the case of the Metropolitan Hospital, with provident schemes.—By Lord Cathcart: Practically all objection to the provident department on the part of the local medical practitioners had disappeared. He agreed with the view that medical practitioners were the most sensitive people in the world with regard to any trespass upon their practices.—By Lord Monkswell: He thought it desirable to maintain the London qualification in the appointment of the staff. The attendance of students at their hospital was not recognised by the licensing bodies.—By the Chairman: The accommodation for the sick in the district was, in his opinion, very deficient.

The Lock Hospital.

Mr. Algernon Coote, secretary of the Lock Hospitals in Dean-street and Harrow-road, gave evidence as to that institution. The hospital, he said, was founded in 1746. They had 140 beds for females and 20 for males, their working average being about 100. The funds did not admit of all the beds being occupied, although at the present moment they were not refusing cases. In the past it had been their habit to hold a quarterly meeting, open only to governors, but this year for the first time they would hold an annual meeting, open to reporters. The average annual cost per bed for females was between £40 and £45, and for males was about £60. The comparative lowness of cost was due to the fact that 75 per cent. of their patients were able to assist the nurses, and they had to employ only seven nurses. They had neither investments nor endowments, and since the repeal of the Contagious Diseases Acts they had received no Government support. They had a debt of £4000 due to their bankers and tradesmen. Their out-patient department was almost self-supporting.

Their lordships then adjourned.

Their lordships met again on Thursday, Lord Sandhurst presiding.

Brompton Consumption Hospital.

Mr. H. Dobbin, secretary of the Brompton Consumption Hospital in Fulham-road, examined by the Chairman, said that he was in receipt of a salary of £500 a year. The hospital was founded in 1841. They admitted cases of consumption and all diseases of the chest, including heart disease. They admitted the diseases in every form and every stage. The buildings were regarded by the staff as thoroughly satisfactory. They had 184 beds in the old building and 137 in the new building. When the hospital was full their daily average of beds occupied was about 300. They had four meetings each year of governors, open to all the governors and representatives of the press. The committee of management, which might be regarded as the executive of the hospital, consisted of twenty-five elected members, the whole of the medical staffs numbering sixteen, the president, the treasurer, and the chaplain. Five or six was a common attendance of the committee. The average would be hardly as many as a dozen. They generally found that the larger the committee the less satisfactorily was the work got through. The committee met once a week. The treasurer was an honorary officer. He did not take the same position as the treasurers of such large hospitals as St. Bartholomew's or Guy's. He was merely the custodian of the hospital funds and the person who signed receipts for legacies &c. They had five auditors elected by the annual court of governors. The auditors were men of business, with a knowledge of accounts. The audit took place every three months. There was no professional audit. The patients were all free patients who were not supposed to be able to pay for medical advice. They had a very large out-patient department. Patients were admitted on governors' letters. The governor made a statement to the effect that the patient was unable to pay for medical advice. Some patients were admitted as acute cases without a

governor's letter. In such cases they required the signature of three of the medical officers. Patients were questioned as to their religious belief in order that they might have the benefit of the ministrations of priests or ministers of their own religious persuasion. The committee of management made the contracts for food. The contracts were not advertised but sent round to a number of respectable tradesmen in the neighbourhood—usually to five or six of each trade. The cost of the hospital last year was £24,495. Their income included ground rents £932, rents £198, dividends £3590, annual subscriptions £8050, donations £5206, and legacies £9594. The legacies for the last ten years averaged in cash and stock £14,900. The collector had a percentage of 5 per cent. upon all old subscriptions, and nothing upon new subscriptions unless they came through his hands, which was very rare. He received nothing more than five shillings upon any one subscription. Their outlay for salaries and wages represented about two-thirds of the return from annual subscriptions. The hospital was situated in two parishes—namely, Kensington and Chelsea. In the former parish they paid on a rateable value of £834, the amount being £712 16s. Formerly they were assessed at only £40. In the Chelsea parish they paid £387 10s. on a rateable value of £1500. In this way £600 of hard-got subscriptions went in rates. They did their own nursing. The lady superintendent resided in the hospital. She had a salary of £150, and everything found. She had a special fee of twenty guineas for lectures to the nurses, and in recent years, in respect of extra duties in connexion with the private nursing department, the committee had given her a special gratuity of fifty guineas. The lady superintendent had just left the service of the hospital in order to get married. They employed seven sisters for day duty and two for night duty, sixty-one staff nurses and probationers, and nine extra nurses. The day nurses were on duty from seven in the morning till nine at night. They were off duty three times a week from six to eight o'clock in the evening, once a month from two to ten o'clock, once a month from twelve to ten o'clock, and one Sunday in the month from six to nine o'clock. They enjoyed an annual holiday of sixteen days. The lady superintendent had told him that she hoped to be able to allow the nurses off duty every day of the week. They found it an advantage to have children among the adults. The children amused the adults, and were themselves as happy as they could possibly be in the circumstances.—Lord Sandhurst: Supposing that you considered a certain medical officer in the establishment to have committed a very serious breach of discipline, have you power to suspend him pending the meeting of the committee?—Mr. Dobbin: I do not remember such a case. I remember a gentleman who did not conduct himself satisfactorily, and he was told to go. I do not think the matter came before the committee.—Lord Sandhurst: Supposing that a certain officer committed a serious breach of discipline, would he go on with his duty until the committee met?—Mr. Dobbin: No, I don't think he would. We really have never had such an instance.—The Earl of Kimberley: If one of the medical officers were found to be drunk while in the discharge of his duty, would you allow him to remain?—Mr. Dobbin: No, I don't think so. We have never had a case of the sort.—The Earl of Kimberley: But it might happen?—Mr. Dobbin: If it did the matter would be treated by the immediate suspension of the officer.—By Lord Saye and Sele: The only case of trouble which he remembered was that of a young physician who was inclined to flirt with a nurse. He was packed off at once. The young medical officers did not have latch-keys. The hospital gates were closed at ten o'clock, and any one arriving after that hour had to ring the bell. The door was opened by the night sister, and consequently the condition of all persons entering was observed. They got a superior class of people. They were different from what were termed ordinary medical students.—By Lord Monkswell: They did not employ an inquiry officer for the in-patients. He did not think that their charity was abused. It was he who sent the contracts out among the tradesmen in the neighbourhood.—By Lord Cathcart: He felt certain that no servant of the hospital had ever attempted to get reward or fee from any of the tradesmen who supplied the food. The drainage of the hospital was in a thoroughly satisfactory condition. He did not see that any advantage could be derived from having a professional audit. Nothing could be more searching than their system of conducting the audit. He had not heard of any servant who contracted consumption through attending the patients.—Lord Thring: Your bill of fare is rather monotonous. Do you use nothing save leg of mutton?—Mr. Dobbin: Leg of mutton is what is called ordinary full diet.—Lord Thring: Is it supposed to be particularly good for consumptive patients?—Mr. Dobbin: It is considered to be very digestible.—By the Chairman: The chaplain received a salary of £300 and a house. Patients came to the hospital from a great distance—from the extreme north of Scotland, from Spain, and Germany. A patient arrived some time ago from the post-office in Vienna. Last year they admitted 1528 in-patients and treated 13,753 persons in the out-patient department. The cost per bed amounted to £89 1s. 3d.

Dr. Theodore Williams, senior physician to the hospital, said that there was no chance of infection in the hospital owing to the construction of the building and the system of ventilation. The patients had good food and tonics, and the temperature was always kept up to a certain degree. They made a point of keeping the patients as much as possible in the dining and other rooms rather than in the wards. The three great essentials for consumptive patients were, dryness of temperature, efficient ventilation, and good food. In all those respects the Brompton Hospital was quite satisfactory.—By Lord Clifford: He would not say that consumption could be cured, but the condition of the patients was often greatly improved, and they were enabled to live long enough to die of something else. Darwin had attacked hospitals on the ground that they kept living a lot of people who ought not to be allowed to increase and multiply.—The Earl of Kimberley: Has not the same argument been used against the medical profession?—Dr. Williams: I have heard some of your lordships say that they are beneficial in the opposite way.—By Lord Monkswell: He defended the arrangement limiting the staff appointments to men holding London qualifications. He thought no injustice was caused to licentiates of Dublin or Edinburgh.

The Committee, after examining Dr. Fowler, adjourned.

ERRATUM.—In our report last week of the evidence of Mr. Nixon, secretary to University College Hospital, the witness is represented as stating that the fortnightly meeting of the Hospital Committee was composed in part of "seventeen" nominees of the Council of University College. The number should have been stated as seven.

BOOKS ETC. RECEIVED.

AMERICAN ORTHOPÆDIC ASSOCIATION, Philadelphia.
Transactions of the American Orthopædic Association. Fourth Session, 1890. Vol. III. pp. 242.

BAILLIÈRE, TINDALL, & COX, King William-street, Strand.
The Pocket Pharmacopœia. By C. E. A. Semple, M.B. Cantab., M.R.C.P. Lond. pp. 192.

CHURCHILL, J. & A., New Burlington-street, London.
Surgery. By C. W. Mansell Moullin, M.D. Oxon., F.R.C.S. 1891. pp. 1413.

CROSBY LOCKWOOD & SON, Stationers'-hall-court, London.
Ventilation; a Text-book to the Practice of the Art of Ventilating Buildings. By W. P. B. Buchan, R.P. Illustrated. pp. 226. 1891.

DORNAN, W. J., Philadelphia.
Transactions of the American Gynæcological Society. Vol. XV. For the year 1890. pp. 411.

HIGGINBOTHAM & Co., Madras.
Clinical Manual for India. Compiled for the use of the Students of the Madras Medical College. By Deputy Surgeon-General C. Sibthorpe, F.K.Q.C.P. Third Edition. 1890. pp. 420.

LEWIS, H. K., Gower-street, London.
The Middlesex Hospital Reports for the year 1889. pp. 271. Price 2s. 6d.

MACMILLAN & Co., London.
A Biography: The Right Honourable Arthur M. Kavanagh. Compiled by his Cousin, Sarah L. Steele. With Portrait. 1891. pp. 349. Price 14s. nett.

SPRINGER, JULIUS, Berlin.
Die Wirksamkeit des Koch'schen Heilmittelsgegen Tuberkulose. 1891. pp. 905.

VOSS, LEOPOLD, Hamburg and Leipzig.
Bakteriologische Diagnostik. Von Jas. Eisenberg. 1891. pp. 509.

WRIGHT, J., & Co., Bristol; SIMPKIN, MARSHALL, & Co., London.
Lectures on Diabetes. By Robert Saundby, M.D. Edin., F.R.C.P. Lond. With Illustrations. 1891. pp. 232.
The Medical Annual and Practitioner's Index. 1891. Ninth year. pp. 667.

The Baths of Balneoville; by A. H. Idyot, M.R.C.S. (Simpkin, Marshall, and Co., London, 1891).—Igiene dell' Crecchio; per il Prof. C. V. Cozzolino (Filinto Cosmi, Napoli, 1891).—Social Reform in the North; by Lala Baij Nath, B.A.; second edition (Printed at the "Voice of India" Printing Press, Bombay, 1890).—Index Medicus, Authors and Subjects, Vol. XIII.; No. 1, January, 1891 (Trübner & Co., and Lewis, London).—Catechism Series; Materia Medica, Part II., Anatomy: Head and Neck, Part III. (E. and S. Livingstone, Edinburgh, 1891); price 1s. each.—After Four Centuries, the World's Fair. The Discovery of America. To be commemorated by an International Exposition, Chicago, Ill., U.S.A., 1893 (J. M. W. Jones, Chicago).—The Anglo-American Annual; a Directory and Handbook for Residents in Paris, 1890-91 (Neal's Library, Paris).—New South Wales; its History and Resources (Special edition of the Year-book of New South Wales, prepared for the New South Wales Government, 1891).—Polytechnics, or Technical and Recreative Institutes; by Howard Seth-Smith (B. T. Batsford, London, 1891); price 1s. 6d.—Bourne's Handy Assurance Manual, 1891; by W. Bourne, F.S.S. (A. Trengove, London); price 1s.—L'éther, est-il préférable au Chloroforme? par M. le Dr. Julliard, de Genève.—Die Peptone; von Dr. Med. V. Gerlach (L. Voss, Hamburg und Leipzig, 1891).—Journal of the Leprosy Investigation Committee; edited by P. S. Abraham, M.D., B.Sc., F.R.C.S.I. No. 2, February, 1891 (Macmillan & Co., London); price 2s. 6d.—Magazines for March: Good Words, Sunday at Home, Leisure Hour, Sunday Magazine (Isbister), Boys' Own Paper, Girls' Own Paper (Religious Tract Society), Scribner's.

Appointments.

Successful applicants for Vacancies, Secretaries of Public Institutions, and others possessing information suitable for this column, are invited to forward it to THE LANCET *Office, directed to the Sub-Editor, not later than 9 o'clock on the Thursday morning of each week for publication in the next number.*

ALEXANDER, P., L.R.C.P., L.R.C.S. Edin., has been appointed Medical Officer of Health for the Whitley and Monkseaton Urban Sanitary District of the Tynemouth Union, vice Fraser, resigned.

ALLEN, JAMES D. C., M.B., C.M. Edin., has been appointed House Surgeon to the Wirral Children's Hospital, Birkenhead.

BATE, H. H., L.R.C.P., L.R.C.S. Edin., has been appointed Medical Officer for the Biddenden District of the Tenterden Union.

BEVERIDGE, A. T. G., M.B., C.M. Aberd., has been appointed Medical Officer to the Aberdeen General Dispensary, vice Gibson.

CALCOTT, L. B., M.R.C.S., has been reappointed Medical Officer of Health for the Oundle Rural and Urban Districts.

CLARE, JOHN, L.R.C.S. Edin., has been appointed Medical Officer of Health for the County Borough of Hanley.

CULLIN, R. B., L.R.C.P., L.R.C.S. Edin., has been reappointed Medical Officer of Health for Tiverton.

DENDLE, FRANK, M.B., C.M. Edin., has been appointed Medical Officer to the Rosewell Coal Company, Lochgelly, Fife, vice J. Stiell, M.D., resigned.

EAST, C. H., M.D. Durh., M.R.C.S., has been appointed Medical Officer of Health for the Rural Sanitary District of the Dore Union, vice Walker, resigned.

ELLIOTT, E., L.R.C.P. Edin., M.R.C.S., has been appointed Medical Officer for the Bromsgrove Union.

GABRIEL, ARRATOON, L.R.C.P., L.R.C.S. Edin., has been appointed Medical Officer for the Borough of Donolly, Victoria, Australia, vice Manson, resigned.

HARPER, J. MAURICE, M.R.C.S., has been appointed Honorary Medical Officer to the Eastern Dispensary, Bath, vice H. G. Terry, F.R.C.S. Edin., resigned.

HARRIS, J. R., M.D. Brussels, L.R.C.P. Edin., M.R.C.S., has been appointed Medical Officer of the Bear-yard Workhouse, Strand Union.

HILL, T. EUSTACE, M.B., C.M. Edin., has been appointed Medical Officer of Health for the County Borough of South Shields.

HODGSON, VICTOR, L.R.C.P. Lond., M.R.C.S., has been appointed House Surgeon to the Scarborough Hospital and Dispensary.

HUGHES, SAMUEL, M.B. Edin., M.R.C.S., has been appointed Medical Officer of Health for the City of Coalville, Utah, United States of America.

JAMES, F. P. R., L.K.Q.C.P. Irel., has been appointed Medical Officer for the Fourth District of the Hunslet Union.

JOHNSON, RAYMOND, M.B., B.S. Lond., F.R.C.S. Eng., has been appointed Surgeon to the Great Northern Central Hospital.

KEMPE, A., M.D. Brussels, M.R.C.P. Edin., M.R.C.S., has been reappointed Medical Officer of Health to the Budleigh Salterton (Exmouth) Local Board.

KNOX, A. W., M.B., C.M. Aberd., has been appointed Medical Officer for the Smallburgh District of the Smallburgh Union.

LANSDOWN, F. POOLE, has been reappointed Surgeon to the Bristol General Hospital.

LINDSAY, D. MOORE, L.R.C.P., L.R.C.S. Irel., has been appointed Medical Officer of Health for Wasatch County, Utah, United States of America.

MACLACHLAN, S. F., M.B., C.M. Glasg., has been reappointed Medical Officer of Health for the Longtown Rural District of the Longtown Union.

MORTON, EDWIN, M.D. Edin., has been appointed Medical Officer of Health for the Reddish Urban Sanitary District of the Bromsgrove Union, vice Smith, resigned.

PALMER, H. L., M.R.C.S., has been reappointed Medical Officer of Health for the Newton Urban District of the Newton and Llanidloes Union.

PEARCE, ARTHUR, M.R.C.S., has been reappointed Medical Officer of Health for the Salcombe Urban District of the Kingsbridge Union.

PRICHARD, ROBT. DAVID, L.R.C.S., L.R.C.P. Ed., L.F.P.S. Glasg., has been appointed Surgeon to the Resolven and Ynisarwen Collieries.

REYNOLDS, E. S., M.D. Lond., M.R.C.P., M.R.C.S., has been appointed Superintendent Medical Officer at the Royal Infirmary, Manchester.

RUSSELL, JAMES W., M.B., B.C. Camb., has been appointed Resident Medical Officer to the Birmingham General Hospital.

SAWYER, JAS. A. F., L.K.Q.C.P., L.R.C.S. Irel., has been reappointed Medical Officer of Health for Clevedon.

SPACKMAN, CONISTON, M.R.C.S., L.R.C.P. Edin., has been appointed Medical Officer to the Union and No. 1 District of Faringdon, vice F. C. Spackman, resigned.

STEWART, W., M.D. Glasg., L.R.C.P. Lond., has been appointed Medical Superintendent to the Oamaree Hospital, New Zealand.

STYLE, F. W., L.R.C.P. Lond., M.R.C.S., has been reappointed Medical Officer of Health for Hucknall-Huthwaite.

SUNDERLAND, OLIVER, L.R.C.P. Edin., M.R.C.S., has been reappointed Medical Officer of Health for the Bexley Urban District of the Dartford Union.

THOM, JAS. M., M.B., C.M. Edin., has been appointed Medical Officer and Bursar of Trinity College, Glenalmond, vice Lowe.

THOMSON, THEODORE, M.B. Lond., L.R.C.P. Edin., has been reappointed Medical Officer of Health for Sheffield.

TYNDALE, W. R., M.B. Aberd., L.R.C.P. Lond., M.R.C.S., has been reappointed Medical Officer of Health for the Hampton Urban Sanitary District of the Kingston-on-Thames Union.

WARREN, WM., M.R.C.P., L.R.C.S. Irel., has been appointed Medical Officer for the Borough of Kew, Victoria, Australia, vice Walsh, resigned.

WEBB, C. F., M.D. Durh., F.R.C.S. Edin., has been reappointed Medical Officer for the First District of the Basingstoke Union.

WELCH, J. R., M.B. Lond., M.R.C.S., has been reappointed Medical Officer of Health for the Handsworth Urban Sanitary District.

WILEY, A. O., L.R.C.P. Edin., L.R.C.S. Irel., has been appointed Medical Officer for the Rural Sanitary District of the Knaresborough Union, vice Cantley, resigned.

WISE, N. V., L.K.Q.C.P., L.R.C.S. Irel., has been appointed Medical Officer of Health for Trowbridge.

Vacancies.

For further information regarding each vacancy reference should be made to the advertisement.

ADDENBROOKE'S HOSPITAL, Cambridge.—Resident House Physician. Salary £65 per annum, with board, lodging, and washing in the Hospital.

BELGRAVE HOSPITAL FOR CHILDREN, 79, Gloucester-street, S.W.—House Surgeon. No salary, but board, lodging, fuel, and light provided.

BETHLEM HOSPITAL.—Two Resident Clinical Assistants.

BRADFORD INFIRMARY AND DISPENSARY.—Dispensary Surgeon. Salary £100 per annum, with board.

CHELSEA HOSPITAL FOR WOMEN, Fulham-road, S.W.—Resident Medical Officer for one year. Salary £80 per annum, with board and residence.

CHELSEA HOSPITAL FOR WOMEN, Fulham-road, S.W.—Clinical Assistants. The fee is 3 guineas for a period of three months.

COUNTY ASYLUM, Prestwich, Manchester.—Dispenser.

COUNTY ASYLUM, Rainhill, near Liverpool.—Assistant Medical Officers. Salary commences at £100 a year, with prospect of an increase of £25 at the end of the first year and £25 at the end of the second, with further increase according to promotion, together with furnished apartments, board, washing, and attendance.

DISTRICT INFIRMARY, Ashton-under-Lyne.—House Surgeon. Salary £90 per annum, and board and lodging.

GREAT NORTHERN CENTRAL HOSPITAL, Holloway-road, N.—Obstetric Physician to Out-patients.

GUY'S HOSPITAL MEDICAL SCHOOL.—Two additional Anæsthetists for the Dental Department.

HOSPITAL, King's Lynn.—House Surgeon and Secretary. Salary £80 per annum, rising to £100, with board, lodging, and washing in the Hospital.

JAFFRAY SUBURBAN BRANCH OF THE GENERAL HOSPITAL, Gravelly-hill, near Birmingham.—Resident Medical Officer. Salary £150 per annum, with board, residence, and washing.

KING'S COLLEGE, London.—Demonstrator of Physiology.

LIVERPOOL NORTHERN HOSPITAL.—Assistant House Surgeon. Salary £70 per annum, with residence and maintenance in the house.

LIVERPOOL DISPENSARIES.—Assistant Surgeon. Salary £80 per annum, with apartments, board, and attendance. (Apply to the Secretary, Leith Offices, 24, Moorfields, Liverpool.)

M.R.C.P., THE LANCET Office, 423, Strand, W.C.—Assistant Medical Officer in a Metropolitan Private Asylum.

METROPOLITAN ASYLUMS BOARD.—Clinical Assistant at the South-Eastern Fever Hospital, New-cross-road, S.E. Board, lodging, and washing.

NEWCASTLE-ON-TYNE DISPENSARY.—Visiting Medical Assistant. Salary £120 a year.

NORFOLK AND NORWICH HOSPITAL.—Physician on the Honorary Medical Staff. (Apply to the Secretary, Norwich.)

QUEEN CHARLOTTE'S LYING-IN HOSPITAL, Marylebone, N.W.—Resident Medical Officer for four months. Salary at the rate of £60 per annum, with board and residence in the Hospital.

ROYAL SOUTH LONDON DISPENSARY.—Honorary Surgeon.

ROYAL HOSPITAL FOR CHILDREN AND WOMEN, Waterloo-bridge-road, S.E.—Resident Medical Officer. Salary £70 per annum, with board and residence.

ROYAL HOSPITAL FOR CHILDREN AND WOMEN, Waterloo-bridge-road, S.E.—Anæsthetist and Registrar for one year, honorarium of 70 guineas being voted at the end of that term.

ST. GEORGE'S AND ST. JAMES'S DISPENSARY, 60, King-street, Regent-street, W.—Surgeon.

ST. THOMAS'S HOSPITAL.—Resident Assistant Physician.

TOWNSHIP OF MANCHESTER.—Resident Assistant Medical Officer at the Workhouse at Crumpsall. Salary £100 per annum, with furnished apartments, fire, light, washing, and attendance.

WEST LONDON HOSPITAL, Hammersmith-road, W.—Assistant Surgeon.

Births, Marriages, and Deaths.

BIRTHS.

BROWN.—On March 3rd, at Lancaster House, Goole, the wife of Dr. Macdonald Brown, of a daughter (prematurely).

FLETCHER.—On March 6th, at Hyde-park-mansions, the wife of H. Morley Fletcher, M.A., M.B., of a daughter.

FOX.—On March 10th, at Brislington House, near Bristol, the wife of Dr. Bonville Fox, of a son.

GRAY.—On March 9th, at Holsworthy, North Devon, the wife of Walter G. Gray, M.R.C.S., L.R.C.P.E., of a daughter.

HARGREAVES.—On March 6th, at Melrose, Merton Park, Surrey, the wife of M. K. Hargreaves, M.D., of a daughter.

RUSHBROOKE.—On March 6th, at Dresden House, Stamford-hill, N., the wife of Thomas Rushbrooke, M.A. Cantab., M.R.C.S., L.R.C.P., &c., of a son.

STEIN.—On March 6th, at Beckenham, the wife of Dr. C. Guthrie Stein, of a son.

MARRIAGES

DANIELL—WOOKEY.—On March 9th, at St. Mary's, Hornsea, Henry Pywell Daniell, L.R.C.P., fourth son of the late Alfred Horatio Daniell, M.R.C.S., of Kegworth, Leicestershire, to Elinor Mary, only daughter of James Wookey, of Potter's Bar, Middlesex.

DEACON—POOK.—On March 4th, at West Croydon Church, John Gillespie Deacon, M.D., Army Medical Staff, to Carrie, eldest daughter of Fred. Pook, of Lisburn, Thornton Heath.

DEATHS.

HAWKINS.—On March 1st, at Berkeley-square, Clifton, Walter R. T. Hawkins, M.R.C.S., aged 29.

HOLLINWORTH.—On March 2nd, at High-street, Lees, Oldham, John Hollinworth, M.R.C.S.

MORRIS.—On March 4th, at Hereford, David E. Morris, M.R.C.S.

OSBORN.—On March 11th, at 2, Anglesea-place, Southampton, Henry Osborn, M.R.C.P., for twenty years Medical Officer of Health for the Borough of Southampton, aged 78. No flowers.

ROBERTSON.—On March 5th, at The Birklands, Hilsea, Cosham, Hants, Frederick Freer Leslie Robertson, M.B., M.R.C.S., aged 46.

TREWMAN.—On March 8th, at Greville Villa, Exmouth, George Robert Trewman, M.R.C.S. and L.S.A., in the 84th year of his age.

WILLETT.—On March 6th, lately residing at Manchester-street, Marylebone, Charles Verrall Willett, M.R.C.S.

WILSON.—On March 5th, at Walker-terrace, Gateshead, Charles Wilson, M.B. Lond., aged 25.

N.B.—A fee of 5s. is charged for the Insertion of Notices of Births, Marriages, and Deaths.

Medical Diary for the ensuing Week.

Monday, March 16.

ROYAL LONDON OPHTHALMIC HOSPITAL, MOORFIELDS.—Operations daily at 10 A.M.

ROYAL WESTMINSTER OPHTHALMIC HOSPITAL.—Operations, 1.30 P.M., and each day at the same hour.

CHELSEA HOSPITAL FOR WOMEN.—Operations, 2.30 P.M.; Thursday, 2.30.

HOSPITAL FOR WOMEN, SOHO-SQUARE.—Operations, 2 P.M., and on Thursday at the same hour.

METROPOLITAN FREE HOSPITAL.—Operations, 2 P.M.

ROYAL ORTHOPÆDIC HOSPITAL.—Operations, 2 P.M.

CENTRAL LONDON OPHTHALMIC HOSPITAL.—Operations, 2 P.M., and each day in the week at the same hour.

UNIVERSITY COLLEGE HOSPITAL.—Ear and Throat Department, 9 A.M.; Thursday, 9 A.M.

THROAT HOSPITAL (Golden-sq.).—5.30 P.M. Dr. J. W. Bond: Hoarseness and Loss of Voice. (Post-graduate Course.)

SOCIETY OF ARTS.—8 P.M. Prof. R. Meldola: Photographic Chemistry. (Cantor Lecture.)

MEDICAL SOCIETY OF LONDON.—8.30 P.M. Mr. Edmund Owen: A fatal case of Litholapaxy in a Child.—Surgeon-Major Keegan (Indore): Litholapaxy in Children, illustrated by Specimens of Calculi and by various Instruments.

Tuesday, March 17.

KING'S COLLEGE HOSPITAL.—Operations, 2 P.M.; Fridays and Saturdays at the same hour.

GUY'S HOSPITAL.—Operations, 1.30 P.M., and on Friday at same hour. Ophthalmic Operations on Monday at 1.30 and Thursday at 2 P.M.

ST. THOMAS'S HOSPITAL.—Ophthalmic operations, 4 P.M.; Friday, 2 P.M.

ST. MARK'S HOSPITAL.—Operations, 2 P.M.

CANCER HOSPITAL, BROMPTON.—Operations, 2 P.M.; Saturday, 2 P.M.

WESTMINSTER HOSPITAL.—Operations, 2 P.M.

WEST LONDON HOSPITAL.—Operations, 2.30 P.M.

ST. MARY'S HOSPITAL.—Operations, 1.30 P.M. Consultations, Monday 2.30 P.M. Skin Department, Monday and Thursday, 9.30 A.M. Throat Department, Tuesdays and Fridays, 1.30 P.M. Electro-therapeutics, same day, 2 P.M.

ROYAL INSTITUTION.—3 P.M. Prof. V. Horsley: The Structure and Functions of the Nervous System.

ROYAL COLLEGE OF PHYSICIANS.—5 P.M. Dr. Broadbent: Structural Diseases of the Heart, from the point of view of Prognosis. (Lumleian Lecture.)

ROYAL STATISTICAL SOCIETY (Lecture Theatre, Museum of Practical Geology, Jermyn-st., S.W.).—7.45 P.M. Dr. Frederic J. Mouat: Prison Ethics and Prison Labour.

THE SANITARY INSTITUTE (Parkes Museum, Margaret-st., W.).—8 P.M. Professor A. Bostock Hill: Trade Nuisances.

PATHOLOGICAL SOCIETY OF LONDON.—8.30 P.M. Dr. Lauriston Shaw: Malignant Disease of the Œsophagus.—Mr. A. A. Bowlby: Symmetrical Periostitis with peculiar formation of New Bone.—Dr. A. F. Voelcker: Scurvy Rickets.—Dr. S. West: Liver with two Hydatids, the Sacs communicating, but not the Cysts.—Mr. A. E. Barker: Malignant Polypus of Nose.—Dr. Galloway: Syringomyelia.—Mr. E. Solly: Myeloid Tumour of Tibia, with Secondary Growths.—Mr. J. Hutchinson, jun.: Syphilitic Disease of Occipital Lobe with Perforation of Cranium.—Mr. Roger Williams: Median Supernumerary Nipple in Male. Card Specimens:—Dr. S. West: Plastic Bronchitis.—Mr. Edgar Willett: Secondary Scirrhus of Bone.—Dr. A. F. Voelcker: General Peritonitis after Perforation of Vermiform Appendix.

Wednesday, March 18.

NATIONAL ORTHOPÆDIC HOSPITAL.—Operations, 10 A.M.

MIDDLESEX HOSPITAL.—Operations, 1 P.M. Operations by the Obstetric Physicians on Thursdays at 2 P.M.

ST. BARTHOLOMEW'S HOSPITAL.—Operations, 1.30 P.M.; Saturday, same hour. Ophthalmic Operations, Tuesday and Thursday, 1.30 P.M. Surgical Consultations, Thursday, 1.30 P.M.

CHARING-CROSS HOSPITAL.—Operations, 3 P.M., and on Thursday and Friday at the same hour.

ST. THOMAS'S HOSPITAL.—Operations, 1.30 P.M.; Saturday, same hour.

LONDON HOSPITAL.—Operations, 2 P.M. Thursday & Saturday, same hour.

ST. PETER'S HOSPITAL, COVENT-GARDEN.—Operations, 2 P.M.

SAMARITAN FREE HOSPITAL FOR WOMEN AND CHILDREN.—Operations, 2.30 P.M.

GREAT NORTHERN CENTRAL HOSPITAL.—Operations, 2 P.M.

UNIVERSITY COLLEGE HOSPITAL.—Operations, 1.30 P.M.; Skin Department, 1.45 P.M.; Saturday, 9.15 A.M.

ROYAL FREE HOSPITAL.—Operations, 2 P.M., and on Saturday.

CHILDREN'S HOSPITAL, GREAT ORMOND-STREET.—Operations, 9.30 A.M.; Surgical Visits on Wednesday and Saturday at 9.15 A.M.

THROAT HOSPITAL (Golden-sq.).—5.30 P.M. Dr. Greville MacDonald: Hay Fever and Paroxysmal Sneezing. (Post-graduate Course.)

EPIDEMIOLOGICAL SOCIETY OF LONDON.—8 P.M. Dr. E. F. Willoughby: A Retrospect of the successive Epidemics of Cholera in Europe and America from 1829 to 1889.

ROYAL MICROSCOPICAL SOCIETY.—8 P.M. Mr. T. Charters White: New Method of Demonstrating Cavities in Dental and Osseous Tissues.

Thursday, March 19.

ST. GEORGE'S HOSPITAL.—Operations, 1 P.M. Surgical Consultations, Wednesday, 1.30 P.M. Ophthalmic Operations, Friday, 1.30 P.M.

UNIVERSITY COLLEGE HOSPITAL.—Operations, 2 P.M.; Ear and Throat Department, 9 A.M.

ROYAL INSTITUTION.—3 P.M. Professor C. Meymott Tidy: Modern Chemistry in relation to Sanitation.

ROYAL COLLEGE OF PHYSICIANS.—5 P.M. Dr. Broadbent: Structural Diseases of the Heart, from the point of view of Prognosis. (Lumleian Lecture.)

HARVEIAN SOCIETY OF LONDON.—8.30 P.M. Clinical Evening. Dr. Rayner Batten: (1) A case for Diagnosis (? Disseminated Sclerosis); (2) A case of Tracheitis with Dry Crust Formation in a Laryngoscopic case.—Dr. Ewart: (1) Friedrich's Disease, with increased Knee-jerk; (2) The Symptoms of Paralysis Agitans in a Hysterical Subject. Cases will also be shown by Drs. Cagney, Quarry Silcock, Maguire, Sidney Phillips, and Mr. Keetley.

Friday, March 20.

ROYAL SOUTH LONDON OPHTHALMIC HOSPITAL.—Operations, 2 P.M.

CANCER HOSPITAL (Fulham-rd., S.W.).—4 P.M. Mr. W. H. Elam: Malignant Disease of Breast.

THE SANITARY INSTITUTE (Parkes Museum, Margaret-st., W.).—8 P.M. Mr. A. Wynter Blyth: Sanitary Law, English, Scotch, and Irish; General Enactments; Public Health Act, 1875; Model Bye-Laws, &c.

ROYAL INSTITUTION.—9 P.M. Professor Victor Horsley: Hydrophobia.

Saturday, March 21.

MIDDLESEX HOSPITAL.—Operations, 2 P.M.

UNIVERSITY COLLEGE HOSPITAL.—Operations, 2 P.M.; and Skin Department, 9.15 A.M.

ROYAL INSTITUTION.—3 P.M. The Right Hon. Lord Rayleigh: The Forces of Cohesion.

METEOROLOGICAL READINGS.

(Taken daily at 8.30 a.m. by Steward's Instruments.)

THE LANCET Office, March 12th, 1891.

Date.	Barometer reduced to Sea Level and 32° F.	Direction of Wind.	Dry Bulb.	Wet Bulb.	Solar Radia in Vacuo.	Maximum Temp. in Shade.	Min. Temp	Rainfall.	Remarks at 8.30 A.M.
Mar. 6	30·09	W.	42	40	88	56	40	..	Cloudy
,, 7	29·73	W.	47	44	69	53	42	..	Cloudy
,, 8	29·61	N.E.	41	40	..	42	40	·46	Raining
,, 9	29·78	N.E.	37	35	49	40	35	·08	Overcast
,, 10	29·39	E.	32	..	69	35	30	·22	Snowing
,, 11	29·29	E.	34	33	81	40	31	·39	Snowing
,, 12	29·73	N.E.	31	..	70	40	29	..	Foggy

Notes, Short Comments, & Answers to Correspondents.

It is especially requested that early intelligence of local events having a medical interest, or which it is desirable to bring under the notice of the profession, may be sent direct to this Office.

All communications relating to the editorial business of the journal must be addressed "To the Editors."

Lectures, original articles, and reports should be written on one side only of the paper.

Letters, whether intended for insertion or for private information, must be authenticated by the names and addresses of their writers, not necessarily for publication.

We cannot prescribe or recommend practitioners.

Local papers containing reports or news paragraphs should be marked and addressed "To the Sub-Editor."

Letters relating to the publication, sale, and advertising departments of THE LANCET *to be addressed "To the Publisher."*

We cannot undertake to return MSS. not used.

SPECIMENS OF MEDICAL ADVERTISING.

THE following card is stated to have been widely circulated at Balham. It is said to be a new thing at Balham, and we trust the specimen will remain a unique one:—

"Endlesham-road Surgery, No. 103, Endlesham-road (Balham end). A resident physician always in attendance. Hours of consultation: Morning, 9 to 11 A.M.; evening, 7 to 9 P.M.; Sunday evening, 7 to 9 P.M. Usual small fees. Vaccination each Wednesday at 11 A.M. Advice and medicine one shilling."

We would also direct attention to the following advertisement:—

"Consulting Rooms for Cancer and Diseases of the Skin, Kensington-chambers, Simmons-street, Blackburn. Physician, Dr. Hindle, Lic. Royal College of Physicians, Edin. Hours, 2 to 5 P.M. daily."

A yet bolder departure from professional usage is a long circular purporting to be written by Mr. Charles Oakes, M.B., C.M., L.S.A., and L.M., 38 and 40, Millman-street, Bedford-row, W.C. It sets forth the author's unusual opportunities of studying all sorts of diseases. But the specialty on which he obviously most prides himself is ulcers of the legs, of which he has permanently cured 500 cases, and never yet met one to fail him.

The following is from a Hobart (Tasmania) newspaper:—

"[A card] Dr. Charles Watson, Surgeon (General, with Speciality for Cancer, Tumours, &c.), begs to announce that having recently arrived from London, he has taken 41, Davey-street, Hobart, where he may be consulted from 9.30 to 11 A.M., or by appointment, daily."

We can only ask the attention of the bodies whose qualifications are held by this group of advertisers to the above specimens.

TUBAL PREGNANCY IN A BITCH.

To the Editors of THE LANCET.

SIRS,—Seeing in Mr. Bland Sutton's Erasmus Wilson lecture that tubal pregnancies in the lower animals are unrecorded, I think it may be worth while to note a case which I have always hitherto regarded as tubal, and which occurred in a bitch. It was a valuable little black-and-tan bitch, the property of a friend at whose house I was for a time staying. This was to be the third litter; the second had consisted of one puppy only. She had been now in great pain for some hours, and was forcing out some brownish fetid fluid from the vagina. As the animal was so valued, I advised a veterinary opinion, which was obtained, the gentleman declining, however, to interfere. With a button-hook and a small sequestrum forceps I got away three puppies that apparently had been dead about a week. Much gas and fluid escaped with them from the uterus. In the night the bitch died. Next morning I found on opening the abdomen that a pulpy mass covered with very thin membrane lay toward the right side among the intestines, and attached at its lower part by a small peduncle to the uterus, which was firmly contracted and apparently normal. I opened up the mass, and found it contained much of the same sort of fluid that had escaped, and also a puppy, which was macerated and had all its hair and cuticle quite loose. It was bigger and had been more developed than the ones I removed, and evidently, from these facts and being so much more decomposed, had belonged to a previous litter. My reasons for believing it to be tubal were that the uterus seemed normal, and that it would have long before set up peritonitis if intra-peritoneal, besides which it was almost free in the cavity, except by the uterine peduncle and a small adhesion at the back. My investigation caused disgust in the house, and all the parts were surreptitiously conveyed away and buried, so that unfortunately I am unable to produce the specimen.—I am, Sirs, yours faithfully

GUSTAVUS G. GIDLEY, M.R.C.S., L.R.C.P.

Honiton, March 4th, 1891.

Mr. C. M. Fegen.—Our correspondent has no claim upon the guardians in the case mentioned by him. It is only when the knife is used in the operation that an extra fee is granted.

Dr. John W. Ogle.—The paper has been received.

"THE AMMONIO-CUPRIC TEST."

To the Editors of THE LANCET.

SIRS,—Your correspondent "R. R." in last week's issue asks for an explanation of the gradual reacquisition of a blue colour by Pavy's ammoniated cupric test solution after the liquid has been decolourised by boiling with diabetic urine. The explanation is simple. The cupric oxide originally present in the blue liquid becomes reduced, on boiling with a saccharine fluid, to the lower or cuprous oxide, which is held in solution by ammonia, yielding a colourless liquid. The cuprous oxide, however, in contact with air rapidly passes by reoxidisation into the cupric oxide, and in so doing reacquires a blue colour. For this reason, as also for the purpose of preventing the rapid dissipation of the ammonia, the solvent, the operation should be performed in a small flask fitted with delivery and escape tubes, and not in an open vessel. If the ammonia is too rapidly driven off, the red cuprous oxide is precipitated, interfering with the perception of the terminal point of decolouration. Obviously the reoxidation and reappearance of blue colour occurring only after the determination is completed are of no account. Your correspondent will find a full description of the process, with a sketch of the apparatus employed, in THE LANCET of March 1st, 1884. I am, Sirs, yours faithfully,

W. S. ROWNTREE.

The Laboratories, Examination Hall, March 10th, 1891.

To the Editors of THE LANCET.

SIRS,—In answer to the inquiry of your correspondent "R. R.," I write to say that having some time ago been in doubt as to the meaning of the recolouration after cooling of the solution, I wrote to Dr. Pavy, who very kindly replied as follows:—"The blue colour may reappear after cooling, and is thus explained: Decolourisation takes place as the result of the reduction of the oxide of copper to the state of suboxide. This reduced suboxide is very ready to take oxygen again. Indeed, an ammoniacal solution of suboxide of copper is used by chemists as a test for oxygen. As the oxide is re-formed by the absorption of oxygen the blue colour is restored."

I am, Sirs, yours truly,

March 9th, 1891. H. C. H.

M.O.H.—Unless the district has at the census preceding the election a population of at least 50,000, no diploma of Public Health is necessary, although sanitary authorities for districts of smaller populations often give preference to candidates holding such diplomas. The diploma is also not needed if for three consecutive years before 1892, when the requirement comes into operation, the candidate has held the post of medical officer of health for a population of not less than 25,000.

A Westminster Student.—The method suggested has been in use for many years.

Dr. Helm's paper is marked for insertion.

M.R.C.P.—Yes, shortly.

MEDICAL OFFICERS OF HEALTH AND MEDICAL PRACTITIONERS.

AN interesting correspondence has been sent to us—too long for insertion—between a medical practitioner who had notified and the medical officer of health, in which the practitioner complains that the medical officer of health visited his cases and criticised, and sometimes questioned, his diagnosis in cases of diphtheria, saying in one case just after Dr. —— had cleared patches off with sulphurous acid: "Dr. —— has diagnosed diphtheria, but I can see no patches." In another case he took a gentleman with him, and they reported "that they could not see anything." In another case he said his eyes were weak, and the "match" gave a very bad light. "The other gentleman felt her neck about, but did not look in the throat, and said he did not think it was *that*." The next day, however, the patch was still there. In another case, in a house where one had died of the disease, the medical officer of health examined a child and said there was nothing the matter. The next day the case proved a very severe one of diphtheria, and the parents said they would have sent sooner for the medical man but for the opinion of the medical officer of health. Such interference as this is intolerable, and should be sternly condemned by the medical authorities of the Local Government Board. The correspondence discloses a series of cases in a small place with several deaths. The practitioner was right in regarding every case, in such a place, with membranous patches as one of diphtheria. The correspondence is a very striking illustration of the inconvenience of divided responsibility in diagnosis. If medical officers of health wish to visit notified cases, they should put themselves in communication with the practitioner in attendance. The smaller fee in pauper cases is according to law.

Messrs. Wright and Mackenzie.—The case being one of infectious disease rather than of blood poisoning, we are of opinion that a claim would not stand.

INSOMNIA.

To the Editors of THE LANCET.

SIRS,—Having seen in your last issue the letter of a correspondent requiring some advice in a case of insomnia, I would advise what I found of great benefit in a case in which I did not care to administer narcotics or sedatives. I simply prescribed liq. strychniæ, ♏ i.; aquæ, ʒ ii. This dose every two hours. Also ext. ergotæ liq., ♏ i.; aquæ, ʒ ii. This dose every two hours also, alternately with the former. It may have been a little extra trouble for the patient having to take medicine every hour, but the result was most satisfactory. In less than twenty-four hours natural sleep ensued. In the case given by your correspondent I would advise substituting for tobacco cubeb cigarettes. If possible recommend the patient a hot sea-water bath for ten minutes, followed immediately by a cold sea-water plunge, or a couple of gallons poured over the patient will do instead. The patient should then be rubbed with a rough bath towel for half an hour or more. This bath to be taken every morning about two hours after breakfast, the temperature of the water commencing at 100°, and rising one degree every two days up to 105°. For diet as much milk as possible; fish three times a day, and as little meat as possible. No stimulants, and as much out-door exercise as possible without fatigue. I understand that if sulphonal be given it must be taken in hot water to be effective. It leaves no ill effects. I am, Sirs, yours faithfully,

Ealing, March 9th, 1891. T. H. FORD.

A CONCESSION TO INFIRM SIGHT.

To the Editors of THE LANCET.

SIRS,—Please allow me to draw attention in your columns to a new penny monthly paper, published by Messrs. Simpkin, Marshall, & Co., called "The Old Folks' Monthly Chit-Chat." It is printed with special large type (great primer), to suit the eyes of those whose sight is impaired from old age or other cause. To me there seems to be ample need and room for such a publication. Doubtless some will think it might with advantage be conducted on somewhat broader lines, so as to be acceptable to others besides members of the Church of England. I enclose for your inspection copies of the three numbers already published, and have only to add that I have no personal interest in the success of the paper.

I am, Sirs, your truly,

GEO. ABBOTT,

Surgeon to the Tunbridge Wells Eye and Ear Hospital.

March, 1891.

SURGICAL TREATMENT OF GRANULAR LIDS.

To the Editors of THE LANCET.

SIRS,—I have treated several cases of granular lids, principally with the "lapis divinæ," and although a cure resulted in most, the time occupied was very long. During the last two months I have treated three cases in the following way. After eversion of the lids, I make a number of short deep incisions parallel with the edge of the eyelids, and then thoroughly scrape away the granulations with as little damage as possible to the conjunctiva. A cure resulted in each case under the fortnight. I think this method will compare favourably with any other. I am, Sirs, yours truly,

Newhaven, March 7th, 1891. ARTHUR G. MOSSOP.

Mr. T. G. Harrison.—The heat-diffusing fireplace mentioned in our issue of Jan. 3rd can be had of Mr. Binnie of Wokingham. Or a grate of similar construction suggested by Mr. Teale of Leeds can be had through the manufacturers of these grates at Leeds. There is also another form of heat-diffusing fireplace manufactured by Messrs. Bishop and Barnard of Norwich.

Dr. Macfarlane's paper will appear very shortly.

G. C. P.—No, not on general subjects.

COMMUNICATIONS not noticed in our present number will receive attention in our next.

COMMUNICATIONS, LETTERS, &c., have been received from—Dr. Lauder Brunton, London; Dr. J. W. Ogle, London; Mr. Hulke; Dr. Gordon Holms, London; Dr. McCall Anderson, Glasgow; Dr. Hingston Fox, London; Mr. B. Sutton, London; Dr. C. Steele; Mr. Colcott Fox, London; Mr. Barrow, London; Dr. Herman, London; Sir James Sawyer, Birmingham; Dr. M. Cohn, Berlin; Dr. Herschell; Dr. G. Macdonald, London; Sir G. M. Humphry, Cambridge; Dr. Broadbent, London; Dr. Dimmock, Harrogate; Mr. P. Edgelow, London; Mr. E. Glave, Abadeh; Mr. H. J. Collins, Norwich; Dr. W. B. Haward, California; Mr. Pugin Thornton, Canterbury; Dr. S. Dixon, Philadelphia; Mr. J. B. Pike, Loughborough; Mr. Newnes, London; Mr. Hepworth Collins, Manchester; Mr. A. C. Hartley, Liscard; Messrs. Clarke and Hodgson, Leicester; Dr. G. Dean, Vienna; Messrs. Haasenstein and Vogler, Frankfort; Dr. Gemmel, Lancaster; Messrs. C. Mitchell and Co., London; Dr. J. G. Horder, Cardiff; Messrs. Walter, Thorp and Co., Glossop; Dr. T. Oliver, Newcastle-on-Tyne; Messrs. Langridge and Freeman, London; Mr. K. Thornton, London; Dr. Gourley, West Hartlepool; Mr. Ford, Ealing; Mr. Evans, Akyab; Messrs. Isaacs and Co., London; Dr. Bowlan, Newcastle-on-Tyne; Messrs. S. and H. Grace, Bristol; Mr. J. E. Cornish, Manchester; Messrs. John Wright and Co., Bristol; Mr. F. A. Davis, London; Messrs. Wright and Mackenzie, Romford; Dr. Brett, Watford; Messrs. J. Richardson and Co., Leicester; Surgeon-Major A. Duncan; Dr. Williamson, Manchester; Dr. Altomeyan, Aleppo; Mr. Milburn, London; Mr. Gidley, Honiton; Mr. Eminson, Scotter; Mr. Stanwell, Rochdale; Dr. De Renzy, Dublin; Mr. W. H. Brown, Leeds; Mr. Whitehouse, Birmingham; Mr. Haviland, Douglas; Mr. Cardew, London; Mr. Rowntree, London; Mr. Tubby, London; Dr. R. Favell, Sheffield; Mr. Southam, Manchester; Mr. Ball, London; Dr. Walmsley; Mr. Edwards, Birmingham; Dr. Crowther, Hobart; Mr. Birchall, Liverpool; Mr. C. H. Leet, Liverpool; Dr. Gramshaw, Easingwold; Messrs. Darnton and Bottomley, Ashton-under-Lyne; Mr. Ryan, London; Messrs. Cooke and Sons Winsford; Mr. H. Green, London; Dr. J. MacMnnn, Crouch End; Mr. Gurner, London; Mr. Thomas, Leeds; Messrs. Barker and Sons, London; Mr. Hime, Bradford; Mr. Glover, Tyrol; Dr. A. S. Taylor, Surbiton; Mr. Hornibrook, London; Miss Fernie, Macclesfield; Mr. Macfarlane, London; Mr. Griffith, Carnforth; Mr. Osborn, Southampton; Dr. Evans, Bradford; Mr. Gates, London; Mr. Smith, Oldham; Mr. Kelly, London; Dr. Garman, Kendal; Mr. O'Gorman, Kilkenny; Mr. Lewis, Rainhill; Mr. Koshe, Manchester; Mr. T. B. Browne, London; Mr. Macdonald, Manchester; Dr. Boghill, Birmingham; Miss Hooper, London; Mr. Weller, Colchester; Mr. J. C. Neill, Haslingden; Mr. Sheine, Philadelphia; Mr. Sell, London; Mr. Everard, Athlone; Mr. Bullivant; Mrs. Harvey, London; Mr. Fox, Manchester; Bristol Drug Co., Ansonia, U.S.A.; Notification Act; T. H. J. P.; Ubique; C. F.; H. C. H.; M.O.H.; Secretary, Norfolk and Norwich Hospital; R. D., London; Attendant, London; Sick of Dispensing; H.; F.R.C.S.; Peno, London; Oxon, London; Bedford Infirmary; The Author of "Flemish Interiors"; Secretary, West-end Hospital, Welbeck-street; A. V. M., London; Anglo-Swiss Condensed Milk Co., London; Bradford, London; House Surgeon, Kidderminser Infirmary; F. F., London; Dunelm, London; One who Subscribes to Charities; Alphabet, London.

LETTERS, *each with enclosure*, are also acknowledged from—Mr. Tyte, Minchinhampton; Mr. Norman, Bayswater; Messrs. McGeachy and Co., Glasgow; Dr. Lloyd, Llanarthney; Messrs. White, Druce, and Brown, London; Mr. Stranaghan, Pontypridd; Mr. Boyd, Denmark Hill; Dr. Stanley, Hereford; Mr. Tully, Hastings; Messrs. Fenwick and Chinery, London; Mr. Blacke, Teignmouth; Messrs. Paternoster and Hales, Hitchin; Mr. Thomas, Manchester; Messrs. Potter and Sacker, London; Dr. Henderson, Bournemouth; Messrs. Rowntree and Co., York; Mr. Luff, London; Mr. B. Edwards; Messrs. Watkins and Osmond, London; Mr. Huish, London; Messrs. Hewlett and Son, London; Mr. Evelyn, York; Dr. Windle, Halifax; Dr. Francis, Wandsworth; Mr. Pim, Lincoln; Mr. Ward, Anerley; Mrs. Belcher, Hampstead; Mr. Warde, Yalding; Mr. Jenkins, Salford; M. Menier, Southwark; Mr. Caird, Glasgow; Dr. Deane, Salop; Mr. Atkinson, Stockwell; Mr. Elliott, Devon; Mr. Mackay, co. Cork; Dr. Halket, Glasgow; Dr. McCarthy, Worcester; Mr. Boulton, Bristol; Mr. Clarke, Newbury; Mr. Rushbrooke; Dr. Whitham, Adlington; Mr. Sisson, Newcastle-on-Tyne; Miss Ramsden, Brighton; Miss Carson, Folkestone; Dr. Lambert, Bradford; Mr. Ellams, Liverpool; Dr. Mackay, Darlington; Mr. Nicholls, Bury St. Edmunds; Mr. Brownlow, Bolton-le-Moors; Mr. Glover, Innsbruck; Mr. Pearson, Newry; Mr. Freer, Llandudno; Mr. Forjett, Lincs; Mr. Kemble, Dorset; Mr. Cochrane, Wigtonshire; Messrs. Heywood, Manchester; Mr. Faithfull, Wimbledon; Mr. Harrison, Bristol; Dr. Leatham, co. Tyrone; Mr. O'Meara, Loughboro'; Mr. Irwine, Liverpool; Mr. Mannsell, Cardiff; Mr. Thin, Edinburgh; Styloid, London; X. Y., London; Scotia, London; Miss X., Mancherter; A. G. O. E., London; Secretary, Kent County Asylum, Maidstone; Bistowey, London; Medicus, London; Clayton Hospital; Denia, London; C. F. K., Cardiff; Great Tower-street Tea Co., London; F. S. D., Leeds; Oxon, London; Secretary, East Suffolk Hospital; Aberdeen, London; M.D. Berlin, London; The Clerk, South Shields Union; Ulna, Manchester; Secretary, Victoria Hospital for Children, Chelsea; Moa, London; Medicus, Horwich, Lancs; City Newspaper Office, London; M.B., Birmingham; Hackney Furnishing Co.; Vere, London; B.A., London; W. J. R., London; Children's Hospital, Pendlebury; Delta, London; Adoption, London; Beech Hurst, Hanley; Delta, Newcastle-on-Tyne; County Borough South Shields: A. M., Sydenham; Alpha, Dorking; S. L., London; Suffolk General Hospital; Medicus, Ramsgate; Micros, London; University College Medical School, Bristol; Genuine, London; Secretary, Bolton Infirmary; M.D., London; E. J., London; Lymph, London; Rubery Hill Asylum, Worcester; C. N. J., Manchester-square; Labor Omnia Vincit, London; Security, London; H. W. J., Bradford; Nottingham Borough Asylum; Surgeon, London; Dr. K., London; J. S. R., Sandwich; Chiron, London; Smilax; Spes, London; M.D., Kilburn.

NEWSPAPERS.—*Midland Evening News, Newcastle Chronicle, Liverpool Mercury, North British Daily Mail, Birmingham Post, Evening News, Galignani's Messenger, Admiralty Horse Guards' Gazette, Dundee Advertiser, Windsor and Eton Gazette, Leeds Mercury, Liverpool Daily Post, Mining Journal, Scottish Leader, Weekly Free Press & Aberdeen Herald, Bristol Mercury, Insurance Record, Local Government Chronicle, Yorkshire Post, Windsor and Eton Express, Reading Mercury, Leinster Chronicle, Newsman and Publication Register, Hertfordshire Mercury, City Press, Sunday Times, Builder, West Middlesex Advertiser, Spectator, Broad Arrow, Chemist and Druggist, Metropolitan Law Journal, Saturday Review, West Middlesex Standard, Pharmaceutical Journal, Guy's Hospital Gazette, Surrey Advertiser, Architect, Western Morning News, Kirkintilloch Herald, Lincoln Gazette, Whitehaven News, L'Echo Salonais, Argus (Melbourne), Perthshire Constitutional, Bury Post, Scotsman, Poole Herald, Rangoon Times, Rossendale Free Press, Army and Navy Gazette, North Devon Journal, Scarborough Post, &c.*, have been received.

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